

## REMARKS ON THE STATISTICS OF MANUFACTURES.

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Inquiries respecting the manufacturing interests of the country were incorporated into the census as early as 1810.

The data collected for that census (1810) were so varied for the several states that no consolidated statement could be given for the United States; hence an exact copy has been made showing the methods adopted for each state, and is published, for its historical value, in an appendix to these remarks.

In 1820 the inquiries of the census embraced the following information:

*Market value of the articles annually manufactured.*

*The kind of raw materials employed.*

*The quantity of raw materials annually consumed.*

*The cost of raw materials annually consumed.*

*Men employed.*

*Women employed.*

*Boys and girls employed.*

*Whole quantity and kind of machinery.*

*Quantity of machinery in operation.*

*Amount of capital invested.*

*Amount paid annually for wages.*

*Amount of contingent expenses.*

*General observations.*

The industries separately returned at this census (1820) were, from the state of New York for example, as follows:

Ale and strong beer.  
 Axes, edged tools, machinery, etc.  
 Axes, hoes, scythes.  
 Ashes, pot.  
 Beef and pork.  
 Broadcloths, satinets, cassimeres, etc.  
 Beer.  
 Bricks.  
 Bar iron.  
 Bar iron, wagon tire, plowshares, molds, etc.  
 Boots and shoes.  
 Broad, narrow, plain cloths and cassimeres.  
 Beer, porter, and ale.  
 Bonnets, straw, etc.  
 Books, school, blank, and miscellaneous.  
 Brushes.  
 Black lead-pencils and crayons.  
 Blockmakers' work in general.  
 Brass andirons, shovels and tongs, castings, hinges, etc.  
 Brushes, bellows, etc.  
 Buhr millstones.  
 Brass and prince's metal, nails.  
 Brick and tile.  
 Clocks, wooden.  
 Cutlery.  
 Chairs.  
 Coopers' work.  
 Chairs and spinning-wheels.  
 Church and other bells, mathematical instruments, brass castings, etc.  
 Combs.  
 Cloth manufactured and cloth dressed for customers.

Cotton cloths.  
 Chairs, Windsor.  
 Copper and tin ware.  
 Clocks of brass.  
 Cotton cloth and yarn.  
 Cotton yarn, shirtings and sheetings, etc.  
 Cloths, woollen.  
 Combs, brass.  
 Chairs, fancy and Windsor.  
 Cloth made and cloth dressed, and wool carded.  
 Candles and soap.  
 Candles, spermaceti.  
 Chemical drugs.  
 Coaches, sleighs, gigs, etc.  
 Colors.  
 Cotton goods generally.  
 Cut glass.  
 Cordage, white and tarred.  
 Cordage of all sorts.  
 Casks for whale oil.  
 Cider spirits.  
 Cotton yarn, twist, filling, sewing, netting, and floss cotton.  
 Cardboards and handles.  
 Cabinet ware of all kinds.  
 Cider brandy.  
 Deer skins, dressed, mittens and gloves.  
 Earthenware.  
 Flour.  
 Furniture, cabinet.  
 Flour of gypsum.  
 Fulling, dressing, etc., of cloth.  
 Fulling and dressing cloths and flannels.

Fulling, etc., cloth and carding wool.  
 Flour and meal.  
 Fabrics, cotton and woolen.  
 Flour and ground plaster.  
 Floor-cloth.  
 Flannels, kerseymeres, cassimeres, etc.  
 Flour and linseed oil.  
 Flour barrels.  
 Gin and whisky.  
 Gloves and mittens.  
 Guns and gun-locks.  
 Guns.  
 Glass bottles and tumblers.  
 Gin and brandy.  
 Gunpowder.  
 Gummed silk.  
 Gummed, medicated elastic linen and cotton.  
 Gin.  
 Gun-barrels, scythes, etc.  
 Hats.  
 Hollow ware, molds, castings, etc.  
 Hats and bonnets.  
 Hollow ware, potash kettles, stoves, machinery, etc.  
 Hoops for cut nails.  
 Hogsheads, tierces, barrels, etc.  
 Harness, saddles, etc.  
 Horn combs.  
 Iron castings of every kind.  
 Iron railing and house work.  
 Iron and brass of all kinds.  
 Iron, bar and draft.  
 Iron, pig, and refined bar iron.  
 Leather, upper and sole, calf and sheepskins.  
 Leather, sole, harness, etc.  
 Lumber.  
 Lumber, as boards, scantling, etc.  
 Linen yarn and coarse cloths.  
 Lead of all descriptions, distill-worms, and pewter ware generally.  
 Lead, white and red, and whiting.  
 Locks, bolts, hinges, etc.  
 Morocco leather.  
 Machines, carding and spinning.  
 Morocco, shoes and boots.  
 Muskets, rifles, and fowling-pieces.  
 Machinery for cotton and woolen manufactures.  
 Machines, carding, picking, and spinning.  
 Machine and hand cards.  
 Marble, rough and manufactured.  
 Marble mantels, tombs, monuments, gravestones, table-tops, etc.  
 Marble chimney pieces, monuments, and busts.  
 Morocco, roans and binding.  
 Mustard.  
 Nails.  
 Nails of all kinds, and brads.  
 Nails, wrought and cut.  
 Nails and hoop-iron.  
 Nail-plates, rods, and cut nails.  
 Nails, axes, etc.  
 Needles and fish-hooks.  
 Nails and smiths' work.  
 Nails, cut.  
 Nails and brads, hooped and rolled iron, rolled steel.  
 Paper, cap, letter, super royal and demy, printing, and writing.  
 Plow plates, stoves, ironware, etc.  
 Potash.  
 Pearlash.  
 Plows.  
 Pot and pearl ash.  
 Pottery.  
 Potters' ware.  
 Printers' work, as newspapers, pamphlets, etc.  
 Paint, red and gray emery.  
 Plow irons, hoes, axes, etc.

Potters' brown earth-ware.  
 Paper, writing, printing, hanging, etc.  
 Plows and agricultural implements.  
 Prussian blue.  
 Patent painted floor-cloth.  
 Plated saddlery, coach and harness furniture.  
 Porter, ale, and beer.  
 Rope and twine.  
 Rum.  
 Rifles, pistols, and muskets.  
 Rolls, carded and cloth dressed.  
 Rolls, carded and cloth dyed, fulled, and dressed.  
 Shirting, brown.  
 Soap and candles.  
 Saddles, bridles, harness, trunks, etc.  
 Shovels and spades.  
 Spinning-wheels.  
 Salt.  
 Satinets, cassimeres, and other woolen cloths.  
 Scythes.  
 Sieves, etc.  
 Segars.  
 Sugar, maple.  
 Scythes, hoes, and axes.  
 Scythes, hoes, axes, and edge-tools.  
 Satinets and narrow cloths.  
 Shirtings, sheeting, ticking, diapers, stripes, etc.  
 Shirtings, sheetings, stripes, checks, etc., and yarn.  
 Stove-pipe, tinware, etc.  
 Slate, house.  
 Scythes and sleigh shoes.  
 Screens, sieves, safes, etc.  
 Satinets and broadcloths.  
 Silverware.  
 Smoke-jacks, plating-mills, rollers, locks, turning-lathes, spiral springs, etc.  
 Snuff and tobacco.  
 Soap, fancy.  
 Soap, transparent and perfumed.  
 Steam-engines, and castings of all descriptions.  
 Stills, worms, etc.  
 Stockings, pantaloons, and drawers.  
 Stone-cutting in general.  
 Stoneware.  
 Sugar, refined, etc.  
 Stone, lime.  
 Stoves, mounted, pipes and boilers.  
 Tinware.  
 Tinware and sheet-iron ware.  
 Tobacco, fine-cut, common smoking, and pig-tail.  
 Tinware of all kinds, stoves and pipes.  
 Tobacco, cut, chewing, etc.  
 Tobacco and snuff of all kinds.  
 Turpentine, spirits, varnish, pitch, etc.  
 Types, printing, and stereotype plates.  
 Tobacco, cut, and segars.  
 Whips, mounted and common.  
 Whisky.  
 Wagons, sleighs, etc.  
 Whisky, raw and rectified.  
 Window-glass.  
 Whisky and gin.  
 Window-glass, cylinder, crown.  
 Window-sash.  
 Woolen cloths, dressed.  
 Wool carded and cloth dressed.  
 Woolen cloths.  
 Woolen cloths and satinets.  
 Wool, carded and spun.  
 Woolen goods of all sorts.  
 Wagons, plows, etc.  
 Yarns, shirtings, sheeting, tickings, etc.  
 Yarn and wool, carded.

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In 1830 there was no provision made by the census law for taking the industrial statistics. For 1840 the following summarized table for the United States is given :

Industries.	Number of establish- ments.	Capital.	Number of persons employed.	Value of products.
		<i>Dollars.</i>		<i>Dollars.</i>
Machinery .....			13,001	10,080,581
Hardware, cutlery, etc. ....			5,402	6,451,007
Cannon and small-arms* .....			1,744	
Precious metals .....		20 620,800	1,556	4,794,000
Various metals .....			6,007	9,770,442
Granite, marble, etc. ....			3,734	2,442,050
Bricks and lime .....			22,807	9,700,045
Wool:				
Fulling-mills .....	2,585			
Woolen manufactures .....	1,420	15,765,124	21,342	20,000,000
Cotton:				
Cotton manufactures .....	1,240			
Number of spindles, 2,284,631 .....		51,102,359	72,119	46,350,453
Dyeing and printing establishments .....	129			
Silk† .....		274,374	767	110,814
Flax .....		208,087	1,028	322,205
Mixed manufactures .....		4,368,901	15,905	6,545,503
Tobacco .....		3,437,191	8,384	5,819,538
Hats, caps, bonnets, etc.:				
Hats and caps .....				
Straw bonnets .....		4,485,300	20,176	8,708,042
Leather tanneries, saddleries, etc.:				
Tanneries † .....	8,220	15,650,929		
All other manufactures of leather, saddleries, etc. ....	17,190	12,881,262	26,018	38,184,403
Soap and candles § .....		2,767,273	5,041	
Distilled and fermented liquors:				
Distilleries †† .....	10,300			
Breweries †† .....	406	9,147,368	12,223	
Powder mills** .....	137	875,875	496	
Drugs and medicines, paints and dyes:				
Medicinal drugs, paints and dyes .....				
Turpentine and varnish .....		4,567,075	1,848	4,151,809
Glass, earthenware, etc.:				660,827
Glass houses .....	81			
Glass-cutting establishments .....	34	2,084,100	3,230	2,800,203
Potteries .....	659	551,431	1,012	1,104,825
Sugar refineries, chocolate, etc.:				
Sugar refineries .....				3,250,700
Chocolate .....				70,000
Confectionery .....	43	1,769,571	1,355	1,143,005
Paper .....	426	4,745,230	4,723	5,041,405
All other manufactures of paper, playing-cards, etc. ....				511,507
Printing and binding:				
Printing offices †† .....	1,552			
Binderies .....	447	5,873,815	11,523	
Cordage:				
Rope-walks .....	388	2,405,577	4,404	4,078,300
Musical instruments .....		734,370	908	923,024
Carriages and wagons .....		5,551,032	21,094	10,807,887
Mills:				
Flouring-mills †† .....	4,304			
Grist-mills .....	23,001			
Oil-mills .....	843	65,858,470	60,788	76,545,246
Saw-mills .....	31,650			
Ships .....				7,016,004
Furniture .....		6,989,971	18,003	7,555,465
Houses §§ .....			85,501	41,017,401
All other manufactures .....		25,019,720		34,785,353

\* Number of cannon, 274; number of small-arms, 88,078.

† Pounds made, 15,745½.

‡ Sides of sole-leather tanned, 8,403,011; sides of upper leather tanned, 3,781,868.

§ Pounds of soap, 40,820,497; pounds of tallow candles, 17,904,507; pounds of spermaceti and wax candles, 2,936,051.

¶ Gallons produced, 41,402,627.

‡ Gallons produced, 23,267,730.

\*\* Pounds of powder made, 8,977,348.

†† Number of daily newspapers, 138; number of weekly newspapers, 1,141; number of semi- and tri-weekly newspapers, 125; number of periodicals, 227.

‡‡ Barrels of flour made, 7,404,562.

§§ Number of brick and stone houses built, 8,429; number of wooden houses built, 45,084.

By the act of May 2, 1850, the scope of the industrial statistics of the census was greatly enlarged. The results as published in the reports of the Seventh Census (1850) are in the main comparable with those of subsequent enumerations, although the schedule of inquiries has been considerably enlarged and the classification of industries has naturally undergone some changes. Table I of the present volume gives the figures of 1850 in juxtaposition with those of 1860, 1870, and 1880, and the statistics of that year are freely used throughout the present report, which cannot be said of the figures of any former census year—1820 or 1840, for instance, which are hardly comparable in form with those of the last four censuses, while there is grave reason to doubt alike the completeness and the accuracy of the returns from which they were made up.

#### THE METHODS OF COLLECTING INDUSTRIAL STATISTICS.

From 1850 to 1870, both inclusive, the statistics of manufactures were collected by the assistant marshals, so called, the actual enumerators of population, who, in addition to the family schedule, carried around with them a schedule for the enumeration of "productive industries", according to the provisions of the law. The enumeration was, by the terms of the schedule, limited to establishments producing annually to the value of \$500.

In the earlier censuses it was almost a necessity that the regular enumerators of population should also conduct the canvass of manufacturing industries on account of the sparseness of settlement and the wide diffusion of petty manufacturing and mechanical establishments. (a) It would have involved an intolerable expense to require one set of officers to traverse the vast spaces covered by the census for the purpose of obtaining the statistics of population, while another set of officers went over the same ground to obtain the statistics of manufactures. Even at the present time, notwithstanding the increase of productive industry, it would probably be deemed undesirable to attempt the industrial canvass of the entire country through a special body of officers, however great might be considered the advantages of an enumeration by experts and picked men. But while this is true, and likely long to remain true, sound judgment seems to require that the advantages of such an enumeration should be obtained wherever they can be had at a not inordinate cost, even though the imperfections of the older method of enumeration should still have to be endured in regard to other portions of the field. Congress recognized this principle when it provided by the eighteenth section of the act of March 3, 1879, that—

Whenever he shall deem it expedient the Superintendent of Census may withdraw the schedules of manufacturing and social statistics from the enumerators of the several subdivisions, and may charge the collection of these statistics upon experts and special agents to be employed without respect to locality. (b)

This provision of law placed it in the power of the Census Office to secure all the advantages of expert enumeration in the case of cities and large manufacturing towns, and even in the case of a few highly important industries spread all over the country, which are by their nature specially adapted to such a canvass from a central point, while leaving the productive establishments found in the small villages or scattered throughout rural districts to be visited by the regular enumerators of population. Under this duplex system the statistics of the latter class of establishments are still obtained just as well, with no greater imperfection and at no greater cost than formerly; while in respect to the larger number of establishments, predominantly also of a much higher industrial importance, which are comprised within cities and compact settlements, the advantages of an enumeration by officers specially appointed on account of their familiarity with the facts and conditions of each industry are secured at no extravagant cost. Under the provisions of law recited special agents were appointed in 279 cities and towns of the United States. In the case of all but thirty-one cities, one special agent only was appointed for each. In the remaining cities assistant special agents were appointed according to the extent and difficulty of the service required.

The total number of persons so appointed, with the length of service and amount of compensation in each case, will be found stated on pages v–viii of Statistics of Manufactures. From this it appears that the aggregate number of days' service rendered in this capacity was 16,138½, and the aggregate amount of compensation therefor was \$68,825.

a In illustration of this wide diffusion of petty productive establishments, it is interesting to observe that, while the settled area of 1840 was but a little over one-half that of 1880, and the value of its manufactured products perhaps not more than one-seventh or one-eighth, there were almost as many grist-mills at the former as at the latter date, and an even greater number of saw-mills.

The figures for the two censuses are as follows:

	1840.	1880.
Grist-mills.....	23, 061	24, 338
Saw-mills .....	31, 650	25, 708

This fact shows strikingly the tendency to the concentration of productive industry during the past forty years, due chiefly to the increased facilities for transportation.

b Such experts and special agents shall take the same oath as the enumerators of the several subdivisions, and shall have equal authority with such enumerators in respect to the subjects consigned to them, and they shall receive compensation at rates to be fixed by the Superintendent of Census, with the approval of the Secretary of the Interior: *Provided*, That the same shall in no case exceed six dollars a day and actual traveling expenses.—*Ibid.*

The total number of establishments returned by the special agents appointed for cities and manufacturing towns was 99,401. This statement does not, however, of itself alone convey an adequate idea of the importance of the enumeration so conducted; probably five-sixths, if not nine-tenths, of the great manufacturing establishments of the country were embraced in this canvass. Single establishments were enumerated by special agents whose product exceeded that of any one of two thousand of the counties of the United States, and in more than one instance exceeded the combined product of twenty populous counties in states not specially given to manufactures. The total value of product reported from the 100 principal cities and towns, whose statistics are separately published in Table VI, following, reaches \$3,045,368,831, forming much more than one-half of the entire product of the country. It is in regard to the great manufacturing establishments of the country that the industrial statistics of the census have heretofore been chiefly defective. The ordinary enumerator of population might safely be trusted to make an account of the product of the country saw-mill or blacksmith shop, perhaps of the small factory running a few months in the year and employing a score of hands. Even if he did not perform his work very well, his errors would, in a degree, offset each other, and the results would not in any case be of very great consequence. But if the work of canvassing the monster establishments which characterize this industrial age, in which hundreds or thousands are employed, in which hundreds of thousands or millions of capital are invested, be committed to a person not selected carefully for this very purpose and not giving his sole attention thereto, with abundant time and special facilities afforded him for the discharge of the duty, errors will inevitably occur so great and so vital as greatly to diminish the value of the results. A very careful enumerator of population may be grossly ignorant of the primary facts of the cotton, woolen, or iron manufacture, and might, in recording the statistics of a single gigantic establishment, commit a blunder which would exceed the value of the whole manufacturing production of a half dozen agricultural counties.

Moreover, it is to be noted that the employment of experts and special agents allows the census to obtain with accuracy a vast amount and variety of information regarding the kinds and quantities of machinery, of materials, and of products, to seek which through unskilled enumerators would only be to invite errors.

Besides the special agents already spoken of as appointed to canvass the manufacturing interests of their respective towns and cities, experts and special agents were appointed under the eighteenth section of the act of 1879 to canvass certain industries throughout the country at large, and the functions of these officers were in most cases enlarged by virtue of that provision of the same section which authorizes the Superintendent of Census to employ experts and special agents to investigate in their economic relations the manufacturing, railroad, fishing, mining, and other industries of the country.

Under the authority conveyed in the two several provisions recited, the following-named persons were appointed special agents at large in the department of manufactures:

Edward Atkinson, cotton goods, Boston, Mass.

George William Bond, manufactures of wool, Boston, Mass.

Henry Hall, ship-building, New York, N. Y.

Professor S. F. Peckham, petroleum production, Providence, R. I.

William L. Rowland, chemical manufacturing industry, Philadelphia, Pa.

James M. Swank, manufactures of iron and steel, Philadelphia, Pa.

Joseph D. Weeks, wages, and the manufacture of coke and glass, Pittsburgh, Pa. Three assistants: Edward T. Peters, E. W. Crane, John Caruthers.

William O. Wyckoff, manufactures of silk, New York, N. Y. One assistant: P. T. Wood.

P. T. Wood, mixed textile industry, New Providence, N. J.

Professor William P. Trowbridge, "power and machinery used in manufactures," Columbia College, New York city. Assistants: Joseph W. Knight Neftel, Herman Hollerith, F. R. Hutton, Charles H. Fitch, Dwight Porter, George F. Swain, James L. Greenleaf, Walter G. Elliott.

The reports of Messrs. Wright, Wyckoff, Bond, Atkinson, Swank, and Rowland on the subjects assigned to them, of Mr. Weeks on glass, and partial reports by two of Professor Trowbridge's assistants, Messrs. Fitch and Hollerith, will be found in the present volume. These reports present the results of a vast amount of patient and intelligent investigation by highly competent experts into the facts and conditions of manufacturing industry.

The remaining reports of special agents appointed to canvass manufacturing industries throughout the country at large have been left, on account of their bulk, to appear in subsequent volumes.

#### INCREASE OF MANUFACTURING INDUSTRY, 1850-1880.

The growth of the United States in manufacturing industry is one of the most noteworthy features of the present industrial age. It is not easy to say which is the best test of that growth; but the application of any one of the several tests offered by the tables common (a) to the last four censuses shows our national progress in this direction to have been remarkable.

a With certain exceptions, which are not of sufficient importance to require to be noted for the purposes of the following discussion.

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Let us first take the figures representing the gross value of product; these are as follows:

Year.	Gross value of products.	Gain per cent. in ten years.	Gain per cent. in twenty years.	Gain per cent. in thirty years.
1850.....	*\$1,019,109,616	-----	-----	-----
1860.....	1,885,861,670	85.05	-----	-----
1870.....	4,282,325,442	124.42	315.30	-----
1880.....	5,369,579,191	26.87	184.73	426.89

\* This is the true total. The total published is \$1,019,106,616.

It is noted in another place (see introductory notes on the statistics of manufactures) that in comparisons of 1870 with 1880, on the one hand, or with 1860 on the other, it should be borne in mind that the figures for 1870 are stated in a currency which was at a great discount in gold, the average premium on gold being for the twelve months, June 1, 1869, to May 31, 1870, 25.3 per cent., which is closely equivalent to a discount on currency of 20 per cent. If, then, we discount the reported values of 1870 by one-fifth, we shall have as our corrected table the following:

Year.	Corrected gross value of manufactured products.	Corrected gain per cent. in ten years.	Corrected gain per cent. in twenty years.	Corrected gain per cent. in thirty years.
1850.....	\$1,019,109,616	-----	-----	-----
1860.....	1,885,861,670	85.05	-----	-----
1870.....	3,385,860,354	79.54	232.24	-----
1880.....	5,369,579,191	58.59	184.73	420.89

Again, we may inquire what has been the increase in the net value of manufactured products reported in the four successive censuses taken for the purposes of this comparison; that is, the value of the products after deduction of the value of the materials consumed:

Year.	Net value of manufactured products.	Gain per cent. in ten years.	Gain per cent. in twenty years.	Gain per cent. in thirty years.
1850.....	*\$403,935,296	-----	-----	-----
1860.....	854,250,584	84.13	-----	-----
1870.....	1,743,898,200	104.14	275.89	-----
1880.....	1,972,755,642	13.12	130.93	325.22

\* The true total of materials is \$555,174,820. The one published is \$555,123,822.

Discounting the figures for 1870 on account of the premium on gold, as we did with the figures reporting gross product, we should have the corrected table of the net values of manufactured products as follows:

Year.	Corrected net value of manufactured products.	Corrected gain per cent. in ten years.	Corrected gain per cent. in twenty years.	Corrected gain per cent. in thirty years.
1850.....	\$403,935,296	-----	-----	-----
1860.....	854,250,584	84.13	-----	-----
1870.....	1,395,118,560	93.31	206.71	-----
1880.....	1,972,755,642	41.40	130.93	325.22

Again, we may take the figures of capital reported as invested in manufacturing industries at the successive periods under consideration, as affording a certain measure of the growth of the country in industrial power, although there is too much reason to believe that the returns of capital have always been gravely defective, for reasons which will be adverted to hereafter. Assuming, however, that the liability to omission or defective statement remained of constant force from 1850 to 1880, we should have the following progressive results:

Year.	Capital invested in manufactures.	Gain per cent. in ten years.	Gain per cent. in twenty years.	Gain per cent. in thirty years.
1850.....	\$533,245,351	-----	-----	-----
1860.....	1,009,855,715	89.38	-----	-----
1870.....	2,118,208,769	109.75	297.23	-----
1880.....	2,790,272,606	31.73	176.30	423.26

Discounting the reported values of 1870, as has been done in preceding cases, we should have the corrected table as follows:

Year.	Corrected amount of capital invested in manufactures.	Corrected gain per cent. in ten years.	Corrected gain per cent. in twenty years.	Corrected gain per cent. in thirty years.
1850.....	\$533,245,351			
1860.....	1,009,855,715	80.88		
1870.....	1,604,567,015	07.80	217.70	
1880.....	2,790,272,006	64.06	170.30	423.20

Again, we may take for comparison the amount of manufacturing wages paid in each of the years 1850, 1860, 1870, and 1880:

Year.	Amount of manufacturing wages paid.	Gain per cent. in ten years.	Gain per cent. in twenty years.	Gain per cent. in thirty years.
1850.....	*\$230,759,464			
1860.....	378,878,906	60.03		
1870.....	775,584,343	104.71	227.58	
1880.....	947,953,705	22.22	150.20	300.80

\* This is the true total. The one published is \$230,755,464.

Should we discount the amount of wages paid in 1870 for the same reason and to the same extent as was done in the case of the gross product and the net product of that year, we should have the corrected table as follows:

Year.	Corrected amount of manufacturing wages paid.	Corrected gain per cent. in ten years.	Corrected gain per cent. in twenty years.	Corrected gain per cent. in thirty years.
1850.....	\$230,759,464			
1860.....	378,878,906	60.03		
1870.....	620,407,474	63.70	103.00	
1880.....	947,953,705	52.78	150.20	300.80

If, again, we were to take the number of hands employed as the test of the manufacturing power of the country on the several dates named, we should have the following table:

Year.	Number of hands employed.	Gain per cent. in ten years.	Gain per cent. in twenty years.	Gain per cent. in thirty years.
1850.....	* 958,070			
1860.....	1,311,246	80.80		
1870.....	2,053,906	50.04	114.30	
1880.....	2,792,595	33.04	108.40	185.22

\* This is the true total. The one published is 957,950.

In the above table we reach an element which requires no allowance to be made on account of the state of the currency in 1870. The tremendous leap made by our manufacturing industries between 1860 and 1870, under the stimulus of war demand and war prices, forms a very striking feature of this table. Let us now put some of these separate elements together into a table for prompt and easy comparison:

	Gross value of manufactured product.	Gross value of manufactured product, 1870, discounted by premium on gold.	Net value of manufactured product.	Net value of manufactured product, 1870, discounted by premium on gold.	Capital invested.	Capital invested, 1870, discounted by premium on gold.	Wages paid.	Wages paid, 1870, discounted by premium on gold.	Hands employed.
Per cent. gain 10 years, 1850-'60 *.....	85.05	85.05	84.13	84.18	80.88	80.88	00.03	00.08	30.80
Per cent. gain 10 years, 1860-'70.....	124.42	70.54	104.14	63.81	100.75	07.80	104.71	08.70	50.04
Per cent. gain 10 years, 1870-'80.....	20.87	58.59	13.12	41.40	31.73	04.06	22.22	52.78	98.04
Per cent. gain 20 years, 1860-'80.....	184.73	184.73	180.03	130.08	170.30	170.30	150.20	150.20	108.40
Per cent. gain 30 years, 1850-'80.....	420.89	420.89	325.22	325.22	423.26	423.20	300.80	300.80	185.22

\* The true total of 1850 is used in casting these percentages.

## THE GEOGRAPHICAL DISTRIBUTION OF OUR MANUFACTURING INDUSTRIES.

The geographical distribution of manufactures throughout the United States appears by the following tables, as was to be expected, to be governed by very different forces from those which control the distribution of population or of agricultural industry. The following table exhibits the rank of each state in the several respects of population, number of farms, aggregate value of farms, aggregate value of farm products, number of manufacturing establishments, aggregate value of manufacturing capital, and aggregate value of manufactured products:

States.	Rank in population.	AGRICULTURAL RANK.			MANUFACTURING RANK.			States.	Rank in population.	AGRICULTURAL RANK.			MANUFACTURING RANK.		
		In number of farms.	In aggregate value of farms.	In aggregate value of products.	In number of establishments.	In capital.	In value of products.			In number of farms.	In aggregate value of farms.	In aggregate value of products.	In number of establishments.	In capital.	In value of products.
Alabama.....	17	15	23	16	29	30	32	Mississippi.....	18	18	27	13	31	34	35
Arkansas.....	25	19	30	21	33	37	36	Missouri.....	5	4	8	7	8	11	8
California.....	24	28	11	15	13	13	12	Nebraska.....	30	23	25	24	32	33	33
Colorado.....	35	37	36	36	36	35	31	Nevada.....	38	38	38	38	38	38	38
Connecticut.....	28	32	22	31	16	6	7	New Hampshire.....	31	31	29	32	22	15	18
Delaware.....	37	35	34	35	35	24	28	New Jersey.....	19	30	16	25	10	7	6
Florida.....	34	33	37	34	37	36	37	New York.....	1	3	2	2	1	1	1
Georgia.....	13	13	23	10	20	22	22	North Carolina.....	15	11	20	18	19	26	29
Illinois.....	4	1	3	1	4	5	4	Ohio.....	3	2	1	3	3	4	5
Indiana.....	6	6	5	6	6	12	10	Oregon.....	30	34	33	33	34	32	34
Iowa.....	10	7	6	4	11	18	19	Pennsylvania.....	2	5	4	5	2	2	2
Kansas.....	20	14	12	17	25	29	24	Rhode Island.....	33	36	35	37	27	9	14
Kentucky.....	8	9	10	12	15	17	17	South Carolina.....	21	20	31	23	28	28	30
Louisiana.....	22	25	32	22	30	27	25	Tennessee.....	12	10	14	14	18	23	21
Maine.....	27	22	26	29	17	16	15	Texas.....	11	8	17	11	23	31	27
Maryland.....	23	26	18	26	12	14	13	Vermont.....	32	29	24	28	24	21	23
Massachusetts.....	7	27	19	27	5	3	3	Virginia.....	14	17	13	20	14	20	20
Michigan.....	9	12	7	8	7	8	9	West Virginia.....	29	24	21	30	26	25	26
Minnesota.....	26	21	15	19	21	19	19	Wisconsin.....	16	16	9	9	9	10	11

In the following tables the general statistics of manufactures for 1850, 1860, 1870, and 1880 are shown, with the states arranged by geographical groups and group totals (see note at foot of page xvi):

Groups.	Year.	No. of establishments.	Capital invested.	Hands employed.	Wages paid.	Value of all materials used.	Value of product.
NORTH ATLANTIC GROUP.							
Maine.....	1850	3,974	\$14,699,152	23,020	\$7,485,588	\$13,553,144	\$24,061,057
Do.....	1860	3,810	22,044,020	34,619	8,368,691	21,553,006	38,193,254
Do.....	1870	5,550	39,796,190	49,180	14,282,205	49,379,757	79,497,521
Do.....	1880	4,481	49,988,171	52,954	13,623,318	51,120,708	79,820,793
New Hampshire.....	1850	3,211	18,242,114	27,092	6,123,876	12,745,466	23,164,503
Do.....	1860	2,592	23,274,094	32,340	8,110,561	20,539,857	37,586,453
Do.....	1870	3,342	36,023,743	40,783	13,823,091	44,577,967	71,038,249
Do.....	1880	3,181	51,112,203	48,831	14,514,793	43,552,462	73,978,028
Vermont.....	1850	1,849	5,001,377	8,445	2,202,348	4,172,552	8,570,920
Do.....	1860	1,883	9,498,617	10,497	3,004,986	7,608,858	14,637,807
Do.....	1870	3,270	20,329,637	18,686	6,264,581	17,007,769	32,184,606
Do.....	1880	2,874	23,205,224	17,540	5,164,479	12,330,677	31,354,366
Massachusetts.....	1850	8,852	88,040,292	177,461	41,954,736	85,856,771	157,743,994
Do.....	1860	8,176	132,792,327	217,421	56,960,913	136,053,721	255,545,922
Do.....	1870	13,212	231,677,862	279,380	118,051,886	334,413,982	553,012,568
Do.....	1880	14,352	303,806,185	352,255	128,315,362	396,972,655	631,135,284
Rhode Island.....	1850	864	12,935,676	20,967	5,047,080	13,186,703	22,117,688
Do.....	1860	1,191	24,278,295	32,400	8,760,125	19,858,515	40,711,296
Do.....	1870	1,850	66,557,322	49,417	19,354,256	73,154,109	111,418,354
Do.....	1880	2,205	75,575,943	62,878	21,355,619	58,103,443	104,163,621



## REMARKS ON THE STATISTICS OF MANUFACTURES.

xiii

Groups.	Year.	No. of establishments.	Capital invested.	Hands employed.	Wages paid.	Value of all materials used.	Value of product.
NORTH ATLANTIC GROUP—continued.							
Connecticut .....	1850	3,737	\$25,876,048	50,731	\$12,435,934	\$23,608,971	\$47,114,586
Do .....	1860	3,019	45,500,430	64,469	19,026,100	40,000,000	81,024,555
Do .....	1870	5,128	95,281,278	89,523	38,987,187	80,419,579	161,065,474
Do .....	1880	4,488	120,480,275	112,915	43,501,518	102,183,341	185,007,211
New York .....	1850	23,553	90,904,405	109,349	49,131,000	134,655,674	237,507,249
Do .....	1860	22,024	172,895,052	230,112	65,440,759	214,813,001	378,870,030
Do .....	1870	30,200	368,994,320	351,800	143,406,758	453,005,452	785,104,051
Do .....	1880	42,739	514,246,575	531,533	198,634,020	679,612,545	1,080,090,596
New Jersey .....	1850	4,207	22,293,258	37,830	9,364,740	22,011,871	30,851,256
Do .....	1860	4,173	40,521,048	56,027	16,277,337	41,429,100	76,906,104
Do .....	1870	6,036	79,006,710	75,552	32,648,409	103,415,245	109,237,792
Do .....	1880	7,128	106,226,593	120,038	40,083,045	165,285,770	254,380,230
Pennsylvania .....	1850	21,605	94,473,810	146,766	37,163,232	87,206,377	155,044,010
Do .....	1860	22,363	100,055,904	222,132	60,300,105	153,477,098	200,121,188
Do .....	1870	37,200	403,821,845	319,487	127,076,594	421,197,073	711,804,344
Do .....	1880	31,232	474,610,993	387,072	134,055,904	465,020,563	744,818,445
SOUTH ATLANTIC GROUP.							
Delaware .....	1850	531	2,078,945	3,888	936,924	2,804,607	4,640,206
Do .....	1860	615	5,452,887	6,421	1,005,754	6,028,918	9,892,092
Do .....	1870	800	10,830,093	9,710	3,692,195	10,200,897	16,791,982
Do .....	1880	740	15,655,822	12,638	4,267,349	12,828,461	20,614,438
Maryland .....	1850	3,725	14,934,450	30,212	7,463,832	17,690,836	33,043,892
Do .....	1860	3,083	23,230,008	28,403	7,100,672	25,404,007	41,735,157
Do .....	1870	5,812	36,438,720	44,860	12,082,817	40,807,032	70,593,613
Do .....	1880	6,787	58,742,984	74,045	18,904,005	60,937,846	100,780,563
Virginia .....	1850	4,740	18,109,143	20,110	5,494,470	18,101,131	29,602,507
Do .....	1860	5,885	26,935,560	30,174	8,544,117	30,840,531	50,053,124
Do .....	1870	5,093	18,455,400	26,074	5,043,099	29,892,384	38,004,022
Do .....	1880	5,710	26,998,990	40,184	7,425,261	32,883,033	51,780,092
West Virginia .....	1850						
Do .....	1860						
Do .....	*1870	2,444	11,084,520	11,072	4,323,164	14,503,701	24,102,201
Do .....	1880	2,375	13,883,300	14,811	4,013,905	14,027,088	22,807,126
North Carolina .....	1850	2,003	7,456,800	14,001	2,383,456	4,602,501	9,111,030
Do .....	1860	3,089	9,693,703	14,217	2,680,441	10,203,238	10,078,008
Do .....	1870	3,042	8,140,473	13,623	2,195,711	12,824,693	19,021,327
Do .....	1880	3,802	13,046,030	18,100	2,740,708	13,000,037	20,005,037
South Carolina .....	1850	1,430	6,053,205	7,000	1,127,712	2,787,534	7,045,477
Do .....	1860	1,230	6,931,750	6,094	1,880,027	5,108,881	8,615,195
Do .....	1870	1,584	5,400,418	8,141	1,543,715	5,855,796	9,858,981
Do .....	1880	2,078	11,205,894	15,828	3,830,289	9,885,598	16,738,698
Georgia .....	1850	1,522	5,456,483	8,968	1,700,094	3,404,017	7,082,075
Do .....	1860	1,890	10,890,875	11,675	2,925,148	9,080,532	10,025,564
Do .....	1870	3,380	13,930,125	17,871	4,844,508	18,583,701	31,190,115
Do .....	1880	3,503	20,072,410	24,875	5,266,152	24,143,030	30,440,948
Florida .....	1850	103	547,000	901	199,452	220,611	668,935
Do .....	1860	185	1,874,125	2,454	619,840	874,506	2,447,009
Do .....	1870	659	1,070,930	2,749	989,592	2,300,873	4,085,403
Do .....	1880	426	3,210,080	5,504	1,270,875	3,040,110	5,546,448
NORTHERN CENTRAL GROUP.							
Ohio .....	1850	10,022	29,019,538	51,491	13,467,156	34,078,010	62,002,270
Do .....	1860	11,128	57,205,303	75,002	22,302,089	60,800,270	121,001,148
Do .....	1870	22,773	141,923,904	137,202	40,066,488	157,131,097	260,718,010
Do .....	1880	20,699	188,939,014	139,609	62,109,800	215,334,258	348,298,890
Indiana .....	1850	4,892	7,750,402	14,440	3,723,844	10,300,700	18,725,423
Do .....	1860	5,323	18,451,121	21,205	6,318,935	27,142,507	42,803,400
Do .....	1870	11,847	52,052,425	58,852	18,360,780	63,135,493	108,617,278
Do .....	1880	11,198	65,742,062	60,508	21,060,888	100,262,017	148,000,411

\* West Virginia separated from Virginia, yet there is an increase in Virginia.

## REMARKS ON THE STATISTICS OF MANUFACTURES.

Groups.	Year.	No. of establishments.	Capital invested.	Hands employed.	Wages paid.	Value of all materials used.	Value of product.
NORTHERN CENTRAL GROUP--continued.							
Illinois.....	1850	3,162	\$6,217,765	11,559	\$3,204,336	\$8,050,327	\$16,534,272
Do.....	1860	4,268	27,548,563	22,968	7,637,921	35,558,782	57,580,886
Do.....	1870	12,507	94,368,057	82,979	31,100,244	127,000,077	205,620,672
Do.....	1880	14,549	140,652,066	144,727	57,429,085	280,843,907	414,864,673
Michigan.....	1850	2,033	6,563,660	9,344	2,717,124	6,136,328	11,169,002
Do.....	1860	3,448	23,808,226	23,190	6,735,047	17,635,611	32,658,356
Do.....	1870	9,455	71,712,283	63,604	21,205,355	68,142,515	118,394,676
Do.....	1880	8,873	92,930,959	77,591	25,313,682	92,900,269	150,715,025
Wisconsin.....	1850	1,262	3,382,148	6,089	1,712,496	5,414,931	9,203,068
Do.....	1860	3,064	15,831,581	15,414	4,208,708	17,137,334	27,849,467
Do.....	1870	7,013	41,081,872	43,910	13,575,642	45,851,266	77,214,326
Do.....	1880	7,074	73,821,802	67,109	18,814,917	85,796,178	128,255,480
Minnesota.....	1850	5	94,000	63	18,540	24,300	58,300
Do.....	1860	592	2,388,810	2,125	712,214	1,904,070	3,873,172
Do.....	1870	2,270	11,993,729	11,200	4,052,837	13,842,902	23,110,700
Do.....	1880	3,493	31,004,811	21,247	8,613,094	55,660,681	76,065,108
Iowa.....	1850	522	1,292,875	1,707	473,016	2,356,881	3,551,783
Do.....	1860	1,939	7,247,130	6,307	1,922,417	8,612,250	13,971,325
Do.....	1870	6,566	22,420,183	25,032	6,893,292	27,682,006	46,534,322
Do.....	1880	6,921	33,987,886	28,372	9,725,962	48,704,311	71,045,926
Missouri.....	1850	2,923	8,576,607	15,808	4,692,648	12,708,351	24,324,418
Do.....	1860	3,157	20,034,220	19,681	6,669,016	23,849,941	41,782,731
Do.....	1870	11,871	80,257,244	65,354	31,655,445	115,533,269	206,213,429
Do.....	1880	8,592	72,507,844	63,995	24,309,716	110,798,392	165,386,205
Nebraska.....	1850						
Do.....	1860	107	266,575	336	105,332	237,215	607,328
Do.....	1870	670	2,160,963	2,665	1,429,913	2,902,074	5,738,512
Do.....	1880	1,403	4,881,150	4,793	1,742,311	8,208,478	12,627,336
Kansas.....	1850						
Do.....	1860	344	1,084,935	1,735	880,346	1,444,975	4,357,408
Do.....	1870	1,477	4,319,000	6,844	2,877,511	6,112,163	11,775,833
Do.....	1880	2,803	11,192,315	12,062	3,905,010	21,453,141	30,843,777
SOUTHERN CENTRAL GROUP.							
Kentucky.....	1850	3,609	11,810,462	21,476	5,106,048	12,165,075	21,710,212
Do.....	1860	3,450	20,266,579	21,258	6,020,682	22,295,759	37,991,240
Do.....	1870	5,390	20,277,809	30,636	9,444,524	20,497,535	54,625,809
Do.....	1880	5,328	45,813,039	37,391	11,657,844	47,461,800	75,483,377
Tennessee.....	1850	2,887	6,527,720	12,039	2,247,492	5,166,886	9,725,608
Do.....	1860	2,572	14,426,261	12,528	3,370,687	9,416,514	17,987,225
Do.....	1870	5,817	15,595,295	19,412	5,890,630	19,657,027	34,362,636
Do.....	1880	4,826	20,092,845	22,445	5,254,775	23,834,262	37,074,886
Alabama.....	1850	1,026	3,450,606	4,936	1,105,824	2,224,960	4,528,876
Do.....	1860	1,459	9,008,181	7,889	2,132,940	5,489,963	10,583,566
Do.....	1870	2,188	5,714,032	8,248	2,227,968	7,592,837	13,040,644
Do.....	1880	2,070	9,668,008	10,019	2,500,504	8,545,520	13,565,504
Mississippi.....	1850	947	1,815,820	3,154	771,528	1,275,771	2,912,068
Do.....	1860	970	4,384,492	4,775	1,618,320	3,146,636	6,500,687
Do.....	1870	1,731	4,501,714	5,341	1,547,428	4,364,206	8,154,758
Do.....	1880	1,479	4,727,600	5,827	1,192,645	4,667,183	7,518,302
Louisiana.....	1850	1,008	5,032,424	6,217	2,033,928	2,459,598	6,779,417
Do.....	1860	1,744	7,151,172	8,789	3,683,679	6,738,468	15,587,473
Do.....	1870	2,557	18,313,974	30,071	4,593,470	12,412,023	24,161,905
Do.....	1880	1,553	11,462,408	12,167	4,300,371	14,442,506	24,205,183
Texas.....	1850	309	530,200	1,666	322,368	394,642	1,168,538
Do.....	1860	983	3,272,450	3,440	1,162,756	3,367,372	6,577,202
Do.....	1870	2,369	5,284,110	7,927	1,787,835	6,273,193	11,517,302
Do.....	1880	2,900	9,245,561	12,159	3,343,087	12,950,269	20,719,928

## REMARKS ON THE STATISTICS OF MANUFACTURES.

XV

Groups.	Year.	No. of establishments.	Capital invested.	Hands employed.	Wages paid.	Value of all materials used.	Value of product.
SOUTHERN CENTRAL GROUP—continued.							
Arkansas.....	1850	261	305,015	842	159,876	215,789	537,908
Do.....	1860	518	1,310,010	1,877	554,240	1,280,503	2,880,578
Do.....	1870	1,079	1,782,913	3,206	673,963	2,536,098	4,620,234
Do.....	1880	1,202	2,953,130	4,557	925,358	4,302,080	6,756,159
WESTERN GROUP.							
Nevada.....	1850						
Do.....	1860						
Do.....	1870	330	5,127,799	2,859	2,498,473	10,315,084	15,870,539
Do.....	1880	184	1,323,300	577	461,807	1,040,704	2,179,626
Oregon.....	1850	52	843,600	285	388,620	800,560	2,226,640
Do.....	1860	309	1,337,233	978	635,256	1,431,052	2,970,701
Do.....	1870	969	4,376,849	2,884	1,120,173	3,410,756	6,877,387
Do.....	1880	1,080	6,312,056	3,473	1,667,046	6,954,436	10,931,232
California.....	1850	1,003	1,006,197	3,064	3,717,180	1,201,154	2,862,522
Do.....	1860	8,468	22,043,096	40,226	28,402,287	27,951,074	68,253,228
Do.....	1870	3,984	39,728,202	25,392	13,130,722	35,351,193	60,594,556
Do.....	1880	5,885	61,243,784	43,003	21,065,005	72,607,709	116,218,073
Colorado.....	1850						
Do.....	1860						
Do.....	1870	256	2,835,605	876	528,221	1,593,280	2,852,820
Do.....	1880	590	4,311,714	5,074	2,314,427	8,806,702	14,260,150

## RECAPITULATION BY GROUP TOTALS.

Group totals.	Number of establishments.	Capital invested.	Hands employed.	Wages paid.	Value of all materials used.	Value of product.
1850.						
The United States.....	122,580	\$532,131,076	955,377	\$235,971,124	\$553,320,848	\$1,015,870,128
North Atlantic.....	71,852	382,366,732	696,661	170,908,584	396,097,529	715,866,162
South Atlantic.....	14,714	55,530,206	94,230	19,195,510	49,672,137	91,202,632
Northern Central.....	24,921	62,896,995	110,501	30,014,100	80,737,837	140,348,545
Southern Central.....	10,047	20,481,346	40,730	11,747,064	23,002,661	47,362,627
Western.....	1,055	1,849,707	4,240	4,105,800	2,010,714	15,099,162
1860.						
The United States.....	139,722	1,003,201,944	1,995,765	370,713,204	1,027,411,432	1,879,893,877
North Atlantic.....	69,831	660,950,387	900,107	240,324,733	656,242,969	1,213,897,518
South Atlantic.....	16,077	86,000,514	106,238	25,254,990	88,620,603	146,947,609
Northern Central.....	33,336	173,055,964	188,651	57,553,225	203,823,054	346,075,290
Southern Central.....	11,702	59,905,745	60,565	18,542,704	51,735,238	98,142,971
Western.....	8,777	23,380,334	50,204	20,937,643	28,483,626	71,229,989
1870.						
The United States.....	249,843	2,104,704,677	2,044,681	771,541,682	2,477,613,663	4,211,677,701
North Atlantic.....	112,394	1,343,088,916	1,273,808	513,854,987	1,581,631,533	2,875,443,499
South Atlantic.....	24,710	105,968,688	135,599	35,618,801	135,034,547	220,613,644
Northern Central.....	86,539	523,198,780	497,822	179,123,507	627,933,551	1,072,933,358
Southern Central.....	20,661	80,460,847	105,441	25,005,818	82,833,810	150,492,288
Western.....	5,539	52,068,440	32,011	17,283,589	50,680,213	92,195,302
1880.						
The United States.....	251,104	2,775,412,345	2,718,865	941,325,925	3,381,701,277	5,341,838,890
North Atlantic.....	112,680	1,719,212,222	1,692,016	605,548,067	1,970,182,173	3,186,052,580
South Atlantic.....	25,517	163,885,209	206,804	47,025,624	176,838,161	280,763,560
Northern Central.....	86,205	715,661,409	663,013	234,008,465	1,028,962,532	1,546,108,421
Southern Central.....	18,954	103,062,651	104,565	29,234,584	116,299,710	185,823,339
Western.....	7,748	73,190,854	52,817	25,509,185	89,418,701	143,689,990

The following table presents for 1880 the proportions in which the several geographical groups contribute to the aggregate number of establishments, amount of capital invested, number of hands employed, amount of wages paid, and the gross and net values of product:

Groups of states.	Number of establishments.	Amount of capital invested.	Hands employed.	Wages paid.	Gross product.	Net product (i. e., deducting value of materials).
The United States .....	100.00	100.00	100.00	100.00	100.00	100.00
North Atlantic .....	44.87	61.94	62.23	64.33	59.64	62.03
South Atlantic .....	10.16	5.80	7.59	4.99	5.26	5.30
Northern Central .....	34.33	25.78	24.39	24.86	28.94	26.38
Southern Central .....	7.55	3.75	3.85	3.11	3.47	3.52
Western .....	3.09	2.64	1.94	2.71	2.69	2.77

The following table exhibits the ratio of increase in the population of each state from 1870 to 1880 in comparison with the ratio of increase in certain manufacturing respects :

States.	Population.	Increase per cent. in population, 1870 to 1880.	INCREASE PER CENT. IN CERTAIN MANUFACTURING RESPECTS, 1870-1880.					
			Number of establishments.		Capital invested.*		Aggregate value of gross products.	
			Increase.	Decrease. †	Increase.	Decrease. †	Increase.	Decrease. †
The United States .....	50,155,783	30.08	0.68	.....	31.73	.....	26.87	.....
Alabama.....	1,262,505	26.63	.....	5.89	69.20	.....	4.02	.....
Arkansas.....	802,525	65.65	11.40	.....	65.64	.....	45.95	.....
California.....	864,694	54.34	47.72	.....	54.16	.....	74.52	.....
Colorado.....	194,327	387.47	133.98	.....	52.06	.....	309.86	.....
Connecticut.....	622,700	15.86	.....	12.48	26.45	.....	15.29	.....
Delaware.....	146,608	17.27	.....	6.75	44.44	.....	22.17	.....
Florida.....	269,493	43.54	.....	35.36	91.12	.....	18.33	.....
Georgia.....	1,542,180	30.24	.....	6.33	48.40	.....	16.81	.....
Illinois.....	3,077,871	21.18	15.50	.....	49.05	.....	101.76	.....
Indiana.....	1,978,301	17.71	.....	5.48	26.80	.....	36.26	.....
Iowa.....	1,624,615	36.06	5.41	.....	51.60	.....	52.67	.....
Kansas.....	996,096	173.35	89.78	.....	159.14	.....	161.92	.....
Kentucky.....	1,648,690	24.81	.....	1.15	56.48	.....	38.18	.....
Louisiana.....	939,946	29.31	.....	39.26	.....	37.41	0.18	.....
Maine.....	648,936	3.51	.....	19.26	.....	.....	0.42	.....
Maryland.....	934,943	19.73	16.78	.....	61.21	.....	39.41	.....
Massachusetts.....	1,789,685	22.35	8.63	.....	31.13	.....	13.94	.....
Michigan.....	1,636,937	38.24	.....	6.16	29.59	.....	27.30	.....
Minnesota.....	780,773	77.57	53.88	.....	158.51	.....	229.13	.....
Mississippi.....	1,181,597	36.65	.....	14.56	5.02	.....	.....	7.80
Missouri.....	2,103,980	25.97	.....	27.62	.....	9.66	.....	19.80
Nebraska.....	452,402	267.83	109.40	.....	124.94	.....	120.05	.....
Nevada.....	62,266	46.54	.....	44.24	.....	74.19	.....	86.27
New Hampshire.....	346,991	9.01	.....	4.82	41.88	.....	4.14	.....
New Jersey.....	1,181,116	24.83	7.41	.....	33.44	.....	50.31	.....
New York.....	5,082,871	15.97	18.04	.....	40.12	.....	37.63	.....
North Carolina.....	1,999,750	30.65	4.39	.....	60.20	.....	5.64	.....
Ohio.....	3,198,062	19.99	.....	9.11	33.13	.....	29.14	.....
Oregon.....	174,768	92.22	11.46	.....	44.21	.....	58.94	.....
Pennsylvania.....	4,282,891	21.61	.....	16.04	16.64	.....	4.62	.....
Rhode Island.....	276,531	27.22	19.19	.....	13.55	.....	6.51	.....
South Carolina.....	995,577	41.09	31.19	.....	107.50	.....	69.77	.....
Tennessee.....	1,542,359	22.55	.....	18.64	28.84	.....	7.89	.....
Texas.....	1,591,749	94.45	24.39	.....	74.97	.....	79.90	.....
Vermont.....	332,280	0.52	.....	12.11	14.44	.....	.....	2.58
Virginia.....	1,512,565	23.46	.....	3.76	46.13	.....	34.97	.....
West Virginia.....	618,457	39.92	.....	2.82	25.25	.....	.....	5.12
Wisconsin.....	1,315,497	24.73	0.43	.....	75.84	.....	66.10	.....

\* It will be observed that in this comparison of 1870 with 1880 the reported capital and the values of the products of the former date are not discounted according to the premium on gold.

† The following industries, viz: Pig lead, gold and silver quartz (milled), sugar and molasses manufactured from sorghum and raw cane, which were included with the statistics of manufactures for 1870, have been relegated to their respective classes of mining and agriculture in 1880, and this fact should be borne in mind in making comparisons between 1880 and 1870 of states reporting for 1870 either industry named above.

## INDIVIDUAL INDUSTRIES.

Table II of the general statistical tables following distributes the aggregate of our manufacturing industries under 332 titles; of these the following show each a total production of \$30,000,000 or over:

Industry.	Number of establishments.	Number of hands employed.	Amount paid in wages.	Value of materials.	Value of product.
Total.....	194, 539	2, 005, 047	\$628, 361, 981	\$2, 654, 782, 809	\$4, 101, 889, 076
Agricultural implements.....	1, 043	89, 580	15, 359, 010	31, 531, 170	68, 040, 480
Blacksmithing.....	28, 101	84, 520	11, 126, 001	14, 572, 303	43, 774, 271
Boots and shoes, including custom work and repairing.....	17, 972	133, 519	50, 066, 144	114, 900, 575	100, 020, 481
Bread and other bakery products.....	6, 396	22, 488	9, 411, 328	42, 012, 027	65, 821, 800
Brick and tile.....	5, 631	60, 855	13, 443, 532	9, 774, 834	32, 833, 687
Carpentering.....	9, 184	54, 188	24, 582, 077	51, 021, 120	94, 152, 109
Carriages and wagons.....	3, 841	45, 394	18, 088, 015	30, 507, 080	64, 531, 617
Clothing, men's.....	6, 166	100, 813	45, 040, 353	131, 303, 282	209, 548, 400
Clothing, women's.....	562	25, 102	9, 061, 005	10, 550, 227	32, 004, 704
Cooperage.....	3, 898	25, 073	8, 002, 003	18, 441, 004	33, 714, 770
Cotton goods.....	1, 005	185, 472	46, 014, 419	113, 765, 537	210, 050, 383
Drugs and chemicals.....	592	9, 545	4, 157, 103	24, 980, 500	68, 173, 658
Dyeing and finishing textiles.....	191	10, 098	6, 474, 364	13, 004, 205	32, 207, 420
Flouring- and grist-mill products.....	24, 838	58, 407	17, 422, 316	441, 545, 225	505, 185, 713
Foundry and machine-shop products.....	4, 958	145, 851	65, 082, 139	103, 345, 083	214, 078, 408
Furniture*.....	5, 227	59, 304	23, 695, 080	35, 800, 206	77, 845, 725
Iron and steel.....	1, 005	140, 978	55, 470, 785	191, 271, 159	206, 537, 085
Leather, curried.....	2, 310	11, 058	4, 845, 413	50, 300, 509	71, 351, 207
Leather, tanned.....	3, 105	23, 812	9, 204, 243	85, 040, 207	113, 348, 330
Liquors, distilled.....	844	6, 502	2, 003, 967	27, 744, 245	41, 003, 603
Liquors, malt.....	2, 101	20, 220	12, 198, 053	50, 830, 500	101, 058, 385
Lumber, planed.....	1, 203	15, 280	5, 890, 724	24, 477, 549	30, 803, 850
Lumber, sawed.....	25, 708	147, 056	31, 845, 074	146, 165, 385	233, 268, 729
Marble and stone work.....	2, 846	21, 471	10, 298, 886	12, 743, 345	31, 416, 160
Mixed textiles.....	470	48, 373	13, 810, 753	37, 227, 741	66, 221, 703
Paper.....	692	24, 422	8, 525, 355	33, 051, 207	55, 100, 014
Printing and publishing.....	3, 407	58, 478	30, 531, 637	32, 400, 395	60, 780, 941
Saddlery and harness.....	7, 000	21, 446	7, 697, 752	19, 908, 710	33, 031, 043
Sash, doors, and blinds.....	1, 283	21, 808	8, 540, 030	20, 700, 010	30, 021, 325
Ship-building.....	2, 188	21, 345	12, 713, 813	19, 730, 368	30, 800, 327
Silk and silk goods.....	382	31, 337	9, 146, 705	22, 467, 701	41, 033, 045
Slaughtering and meat-packing, not including retail butchering establishments.....	872	27, 207	10, 608, 530	207, 738, 002	303, 502, 413
Sugar and molasses, refined.....	49	5, 857	2, 875, 032	144, 008, 490	155, 484, 015
Tinware, copperware, and sheet-iron ware.....	7, 595	20, 248	10, 722, 074	25, 232, 231	48, 006, 038
Tobacco, chewing, smoking, and snuff.....	477	32, 756	6, 410, 024	34, 397, 072	52, 703, 050
Tobacco, cigars and cigarettes.....	7, 145	53, 207	18, 404, 502	20, 577, 833	34, 070, 675
Woolen manufactures, all classes†.....	2, 080	161, 557	47, 389, 087	104, 371, 551	207, 252, 018

\* Includes furniture, chairs.

† Includes carpets, other than rag; felt goods; hosiery and knit goods; wool hats; woolen goods and worsted goods.

It will be seen that these thirty-seven (*a*) selected industries yield a total production of \$4,101,889,676, or about 76.39 per cent. of the manufacturing aggregate of the United States. Twenty-one industries report each \$15,000,000 to \$30,000,000; 60, \$5,000,000 to \$15,000,000; 108, \$1,000,000 to \$5,000,000; 100, under \$1,000,000.

Table III shows the respective contributions of the states and territories to the grand total of each industry, with the exception of 26 branches of manufacture, which are reserved to be subsequently given more at length, either in Table VII or in the detailed report of some special agent, and certain branches of manufacture which are omitted by reason of their appearing in less than eight states and territories. That the latter class should contain so many as 103 out of the 332 industries enumerated in Table II affords a striking exhibition of the irregular manner in which the industries recorded in the census are found distributed among the several states and territories. The study of that distribution is both interesting and instructive; but it needs to be borne in mind that the titles in the tables under consideration only characterize the principal productions of the establishments reported. Thus, while there may appear a certain number of establishments reported as manufacturing some highly special article, it does not follow that this article is only manufactured to that extent; other establishments of a more miscellaneous character may produce this article in connection with many others, and those establishments would be properly returned under some more general term to express the wide variety of their products. The making of shirts, for instance, is returned as a separate branch of industry in only 27 states and territories; but, in addition to the domestic manufacture of this article, there are doubtless in the other states and territories tailors, manufacturers of clothing, etc., who make shirts for the general market as a part of their business.

*a* These thirty-seven industries embrace forty-three industries, according to the classification adopted in Table IV.

It is, of course, always to be borne in mind that these tables relate only to the product of distinct establishments. When we say that "bread and other bakery products" are reported in 45 states and territories, (a) we do not mean to say that bread is not also made in the remaining two states or territories in private families, hotels, restaurants, or boarding-houses, but only that it is not made in distinct establishments of productive industry, such as bakeries.

Some branches of manufacture are reported for every one of the 47 states and territories; such as blacksmithing, boot and shoe making, the manufacture of tinware, copperware, or sheet-iron ware, and saddlery and harness making. The making or repairing of carriages and the wheelwrighting trade appear in 46 states and territories. The making of bread and other bakery products and the manufacture of furniture are reported from 45 states and territories. Forty-four states and territories return foundries and machine-shops.

It is significant of the habits of the people that while the production of men's clothing in distinct establishments is reported in 43 states and territories, that of women's clothing is reported for only 25, domestic manufacture or custom dress-making taking the place of the shop or factory in supplying this demand in 22 states or territories. The other industries which are reported in as many as 43 states and territories are the manufacture of tobacco or cigars and the manufacture of confectionery. The distinct manufacture of brooms and brushes is reported from 36 states and territories, and that of mattresses and spring beds from 35.

The planing of lumber in distinct establishments (not that which is merely a branch of carpentering) is reported in 42 states and territories. The industry of printing and publishing is reported in an equal number, the working of stone or marble in 41, lock- and gun-smithing in 40. The manufacture of mineral and soda-water follows close upon lock- and gun-smithing, being represented in 38 states. The manufacture of malt liquors is pursued in 40 states or territories. The separate manufacture of coffins and undertakers' goods is reported from only 38. The manufacture of looking-glasses and picture frames appears in 32 states or territories; that of umbrellas and canes in but 19. One marked tendency of our agriculture at the present time is indicated by the return of fertilizers manufactured in 31 states or territories, while another notable feature is represented by the canning and preserving of fruits and vegetables, as a shop or factory industry, in not less than 25. The dressing of furs is reported in 22 states or territories; the making of paving materials in 14; of professional and scientific instruments in 18; of fire-proof safes and vaults in 14; of matches in 13; of corsets in 20; of fire-arms in 6; of scales and balances in 16; of sewing-machines and attachments in an equal number; of saws in 20; of lightning-rods in 10 (it is curious to note that the lightning-rod manufacture, as a separate branch of industry, is reported almost exclusively from the west, the states reported being Illinois, Indiana, Iowa, Kentucky, Maryland, Minnesota, Missouri, Ohio, Pennsylvania, and Wisconsin); of needles and pins in 8; of ink in 14; of refrigerators in 15.

So much for the wide territorial diffusion of common industries, many of them of a petty character. One branch of manufacture, which aggregates less than \$2,000,000 worth of product, appears in 28 states or territories, including Maine, California, and Louisiana; another in 22 states aggregates considerably less than \$1,000,000. Of the greater industries, some are widely spread; others intensely concentrated. The greatest of all is the flour- and grist-mill industry, aggregating a product of \$505,185,712. Of this about one-half is produced by the six states of New York, Illinois, Pennsylvania, Minnesota, Ohio, and Missouri, while yet not less than 24 states produce above \$4,000,000 each. This industry involves the consumption of 304,775,737 bushels of wheat and 234,907,220 bushels of other grain, with an aggregate value of all materials reaching \$441,545,225.

The cities producing to the value of \$4,000,000 annually are: In New York, New York city; in Minnesota, Minneapolis; in Missouri, Saint Louis; in Wisconsin, Milwaukee.

The next of the great industries is also connected with the supply of food, viz, slaughtering and meat-packing, which yields an aggregate product of \$303,562,413. The concentration of this interest is startling, (b) the single state of Illinois contributing almost one-third of the whole, the single city of Chicago producing \$85,324,371. Of the other states, New York follows at a long distance with \$43,096,138; Massachusetts, with \$22,951,782; New Jersey, with \$20,719,640; Ohio, with \$19,231,297; Indiana, with \$15,209,204; Missouri, with \$14,628,630.

Among the products of this industry, which is wholly exclusive of the ordinary retail butchering business, are reckoned 759,142,875 pounds of beef sold fresh, 192,134,665 pounds of beef salted or canned, 106,692,216 pounds of mutton sold fresh, 506,077,052 pounds of pork sold fresh, 859,045,987 pounds of pork salted, 1,122,742,816 pounds of bacon and hams, 501,471,698 pounds of lard.

The cities producing to the value of \$3,000,000 each annually are: In Illinois, Chicago; in New York, New York city, Brooklyn, and Buffalo; in Massachusetts, Cambridge, Boston, and Somerville; in New Jersey, Jersey City; in Ohio, Cincinnati and Cleveland; in Indiana, Indianapolis; in Missouri, Saint Louis; in Pennsylvania, Philadelphia; in California, San Francisco; in Wisconsin, Milwaukee; in Connecticut, New Haven; in Kentucky, Louisville.

Ranking next in order of gross value of product comes the manufacture of iron and steel, with an aggregate of \$296,557,685, of which Pennsylvania alone produces \$145,576,268. Ohio is the next state as an iron producer, with

a For the purposes of this discussion, the District of Columbia will be spoken of as a territory.

b For the influence of this industry in swelling the return of gross manufacturing for certain cities, see pages 424, 425 following.

\$34,918,360, or\* less than one-fourth the product of Pennsylvania. New York, with \$22,219,219; Illinois, with \$20,545,289; New Jersey, with \$10,341,896, and Massachusetts, with \$10,288,921, are the only other states rising above ten millions. There are seven other states showing a product of between \$10,000,000 and \$4,000,000, and six showing between \$4,000,000 and \$1,000,000. The aggregate value assigned to the product of the iron and steel manufacture is distributed among the principal different classes of works as follows:

Blast-furnaces .....	\$89,315,569
Bloomeries and forges .....	3,968,074
Iron rolling-mills .....	136,798,574
Bessemer and open-hearth steel works .....	55,805,210
Crucible and miscellaneous steel works .....	10,670,258
Total .....	<u>296,557,685</u>

Among the products of blast-furnaces are: Anthracite pig-iron, 1,112,735 tons; bituminous coal and coke pig-iron, 1,515,107 tons; mixed anthracite and coke pig-iron, 713,932 tons; cold-blast charcoal pig-iron, 79,613 tons; hot-blast charcoal pig-iron, 355,405 tons.

Among the products of iron rolling-mills are 663,211 tons of bar-iron, 145,626 tons of rod-iron, 96,810 tons of structural iron, 128,321 tons of skelp, 2,630 tons of rolled-iron car axles, 21,884 tons of hammered-iron car-axles, 466,917 tons of iron rails, 64,469 tons of muck bar, 94,992 tons of sheet-iron, 89,560 tons of boiler-plate iron, and 94,749 tons of other plate-iron, exclusive of nail-plate; 96,843 tons of hoop-iron, 48,345 tons of other rolled iron, and 3,703 tons of other hammered iron, 252,830 tons of cut nails, and 82,358 tons of other finished products.

Among the products of Bessemer and open-hearth steel works are 741,475 tons of Bessemer steel rails, valued at \$37,408,625.

The chief seats of the blast-furnace industry are: In Pennsylvania, Allegheny county, Lehigh county, Berks county; in Ohio, Mahoning county, Lawrence county, Cuyahoga county; in New York, Essex county, Dutchess county.

The chief seats of the Bessemer industry are: In Pennsylvania, Pittsburgh and Philadelphia; in Illinois, Chicago; in Ohio, Cleveland; in Massachusetts, Boston.

The elaborate report of Mr. James M. Swank on the iron and steel industry, which will be found in the present volume, forms a magazine of useful information, much of it wholly new, and the result of investigations conducted by Mr. Swank as a special agent of this office.

The saw-mill industry of the United States appears, as has been said, in every state and every territory. The aggregate product is reported at \$233,268,729. To this the single state of Michigan contributes \$52,449,928, or nearly 22½ per cent. The great lumber counties of this state are: Muskegon, \$7,686,013; Bay, \$5,832,307; Saginaw, \$4,758,439; and Montcalm, \$4,046,649.

The lumber industry of Pennsylvania, with a product of \$22,457,359, having its headquarters at Williamsport, (a) comes next on the list. Wisconsin shows a product of \$17,952,347, New York of \$14,356,910, Indiana of \$14,260,830, and Ohio of \$13,864,460.

Among the products of this industry are 18,091,356,000 feet of lumber (board measure), 1,761,788,000 laths, 5,555,046,000 shingles, 1,248,226,000 staves, and 146,523,000 sets of headings.

The report of Professor Charles S. Sargent, the special agent appointed to investigate the forest wealth of the United States, deals with the question of lumber supply and the relations of tree-covering to the agricultural interests. Professor Sargent's report, on account of its bulk, forms the material of a separate volume.

The next largest item on the list is designated "Foundry and machine-shop products", with an aggregate value of \$214,378,468. New York leads with \$44,714,915; Pennsylvania follows with \$35,029,673; Massachusetts shows a product of \$23,935,604; Ohio, of \$18,242,325; Illinois, of \$13,515,791.

The cities producing to the value of \$3,000,000 and upward in the foundry and machine-shop industry are: In New York, New York city, Brooklyn, Buffalo, and Troy; in Pennsylvania, Philadelphia and Pittsburgh; in Massachusetts, Boston and Worcester; in Ohio, Cincinnati and Cleveland; in Illinois, Chicago, etc.

Cotton goods are reported as produced to the aggregate value of \$210,950,383, silk and silk goods to the value of \$41,033,045, woolen goods to the value of \$160,606,721, worsted goods to the value of \$33,549,942, and mixed textiles to the value of \$66,221,703; making the total value of all textile manufactures, exclusive of hosiery and knit goods, felt goods, and carpets, \$512,361,794.

Mr. Edward Atkinson, the special agent for investigating the facts and conditions of the cotton manufacture, divides the total product of \$210,950,383 into two parts, the larger one, \$192,090,110, expressing the value of specific manufactures of cotton—cotton goods, in the ordinary sense of the term—the other, \$18,860,273, expressing the value of certain products not so fully recognized as cotton goods in ordinary speech, the products of mills which work raw cotton, waste, or cotton yarn into hose webbing, tapes, fancy fabrics, etc.

\* Lycoming county, in which Williamsport is situated, reports a product of \$3,907,069.



The cotton manufacture is almost monopolized by New England, Massachusetts alone producing to the value of \$74,780,835. (a) The other New England states produce in the aggregate about as much more, viz: Rhode Island, \$24,609,461; New Hampshire, \$18,226,573; Connecticut, \$17,050,126; Maine, \$13,319,363; Vermont, \$915,864. New England is thus seen to produce 70.59 per cent. of all the cotton goods made in the country.

The other states producing in excess of \$2,000,000 each are Georgia, \$6,513,490; Maryland, \$4,688,714; New Jersey, \$5,039,519; New York, \$9,723,527; North Carolina, \$2,554,482; Pennsylvania, \$21,640,397; South Carolina, \$2,895,769.

The aggregate weight of the specific cotton products of the country is given as 607,264,241 pounds, (b) comprised in which are broad goods to the extent of 2,273,278,025 yards. (b)

The cities producing to the value of \$3,000,000 each and upward annually in the cotton manufacture are: In Massachusetts, Lowell, Fall River, Lawrence, New Bedford, and Holyoke; in New Hampshire, Manchester; in Pennsylvania, Philadelphia.

The silk manufacture is even more highly localized than the cotton manufacture. A large amount of valuable information regarding the history and present condition of this industry will be found in Mr. Wyckoff's report, in the present volume.

New Jersey leads in silk production with a total of \$17,122,230; New York comes next with \$10,170,140; Connecticut stands third with \$5,881,000; while Massachusetts and Pennsylvania have respectively \$3,764,260 and \$3,491,840.

Among the products of the silk manufacture are 10,856,284 yards of broad goods and handkerchiefs, 30,129,951 yards of ribbons and laces, 821,528 pounds of sewing silk and twist, 710,149 pounds of trimmings and small goods.

The cities producing annually to the value of \$1,000,000 and upward in this industry are: In New York, New York city; in Pennsylvania, Philadelphia; in Connecticut, Hartford.

The tables relating to the woolen manufacture, which will be found in this volume, present a great amount of highly detailed and technical information regarding this important branch of the national industry. Four states are found producing above \$15,000,000 each, viz: Massachusetts, \$45,099,203; Pennsylvania, \$32,341,291; Connecticut, \$16,892,284; Rhode Island, \$15,410,450. New York produces to the value of \$9,874,973; New Hampshire, \$8,113,839; Maine, \$6,686,073; New Jersey, \$4,984,007; Vermont, \$3,217,807.

The variety of products in the woolen manufacture is too great to justify mention here. The products will be found enumerated and classified in the extended tables following (Table VII).

The cities producing annually each \$3,000,000 and upward in this industry are: In Massachusetts, Lawrence and Lowell; in Pennsylvania, Philadelphia; in Rhode Island, Providence; in New York, New York city; in New Hampshire, Manchester.

The mixed textile industry is pursued chiefly in Pennsylvania (\$20,882,764), New York (\$13,376,380), and Massachusetts (\$13,043,829), these three states showing more than two-thirds the entire product.

The manufacture of clothing appears, as would have been anticipated, among the chief forms of the national industry. Notwithstanding that the figures exclude the domestic production of clothes, and also the work of the dressmaker, the product reaches the enormous aggregate of \$209,548,460 worth of men's clothing and \$32,004,794 worth of women's clothing; in all, \$241,553,254. Only five states produce largely in this department. New York stands at the head, with \$81,133,611 worth of men's and \$20,314,307 worth of women's clothing; in all, \$101,447,918. Pennsylvania comes next, with \$26,799,697 worth of men's and women's clothing; Ohio, with \$21,289,052; Illinois, with \$20,942,839; Massachusetts, with \$19,922,700. The cities manufacturing annually each to the value of \$4,000,000 and upward are chiefly large commercial cities. They are as follows: In New York, New York city and Rochester; in Pennsylvania, Philadelphia; in Ohio, Cincinnati; in Illinois, Chicago; in Massachusetts, Boston; in Maryland, Baltimore; in California, San Francisco.

The manufacture of boots and shoes is one of the most important at once of those industries which are prosecuted in large factories, and of those which are carried on in a vast number of petty shops. The boot and shoe factories reported number 1,959, employing 111,152 men, women, and children, and producing to the value of \$166,050,354. The materials consumed include 6,831,661 sides of sole-leather, 21,147,656 sides of upper leather, and 32,960,614 pounds of other leather.

The products are 30,590,896 pairs of boots and 94,887,615 pairs of shoes.

The single state of Massachusetts reports 982 of the 1,959 factories in this industry, and \$95,900,510 of the \$166,050,354 total product. New York comes next, with \$18,979,259, and the following states produce in excess of

a These figures embrace both classes of cotton manufactures.

b In the consideration of the footings of the aggregate yards and pounds of cotton fabrics, whether considered by counties or by states, it must be remembered that while all specific cotton fabrics may be rated by the pound, it by no means follows that there will in all cases be a statement of yards to correspond to that number of pounds, for the reason that very large quantities of yarn and thread are made which are sold by the pound, and never bought or considered by the unit of the yard. Hence the footing of pounds may be considered as the resultant of the use of the given quantity of cotton; the footing of yards merely of that part of the cotton manufacture which is woven and sold by the measure of the yard.



\$5,000,000 each: Pennsylvania, \$9,590,002; New Hampshire, \$7,230,804; Maine, \$5,823,541. California, Connecticut, Illinois, Maryland, New Jersey, and Ohio each produce between \$2,000,000 and \$5,000,000 worth of boots and shoes in factories.

The cities producing annually to the value of \$3,000,000 or upward are: In Massachusetts, Haverhill, Lynn, Brockton, Marlborough, Worcester, and Weymouth; in New York, New York city and Rochester; in Pennsylvania, Philadelphia; in California, San Francisco; in Ohio, Cincinnati.

Aside from the factory industry, the manufacture of boots and shoes is large and widely spread. Deducting the factories, there remain 16,013 establishments, employing 22,667 hands, and producing to the value of \$30,870,127.

The leather-tanning industry in the United States includes the preparation of 11,773,171 hides and 19,936,658 skins, the number of hands employed being 23,812, and the value of the product being \$113,348,336. Of this Pennsylvania produces \$27,042,068, New York \$23,652,366, and Massachusetts \$13,556,721. Nine other states produce in excess of \$2,000,000 worth, viz: Maine, \$7,100,967; New Jersey, \$6,748,094; Illinois, \$5,402,070; Ohio, \$4,357,273; Wisconsin, \$4,324,433; California, \$3,738,723; Kentucky, \$2,511,960; New Hampshire, \$2,315,616; Michigan, \$2,029,653. The cities producing in this industry annually to the value of \$1,000,000 or over are: In Pennsylvania, Allegheny; in New York, Buffalo and New York city; in Massachusetts, Salem and Lynn; in New Jersey, Newark; in Illinois, Chicago; in Ohio, Cincinnati; in Wisconsin, Milwaukee; in California, San Francisco; in Kentucky, Louisville.

In striking contrast to most of the industries named, in the matter of geographical distribution, are some of the common trades, which may be called neighborhood trades. In illustration of the wide diffusion of these industries, we present the following table, which gives the value of the carpentering and blacksmithing reported for each state, together with the product per head of population:

State.	CARPENTERING.		BLACKSMITHING.		State.	CARPENTERING.		BLACKSMITHING.	
	Aggregate product.	Product per capita.	Aggregate product.	Product per capita.		Aggregate product.	Product per capita.	Aggregate product.	Product per capita.
Alabama .....	\$337,450	\$0 27	\$224,011	\$0 18	Mississippi .....	\$170,816	\$0 15	\$168,201	\$0 15
Arkansas .....	109,625	25	210,195	20	Missouri .....	5,027,011	2 32	2,122,008	98
California .....	3,533,131	4 09	1,908,969	2 21	Nebraska .....	968,402	2 14	393,600	87
Colorado .....	1,050,400	5 44	287,085	1 48	Nevada .....	13,000	22	200,595	3 22
Connecticut .....	3,101,452	4 98	730 114	1 17	New Hampshire .....	855,372	2 47	474,123	1 37
Delaware .....	313,255	2 14	148,003	1 01	New Jersey .....	3,095,361	3 53	1,207,051	1 07
Florida .....	88,400	33	56,085	21	New York .....	19,410,276	8 82	6,253,634	1 23
Georgia .....	814,049	53	472,945	31	North Carolina .....	221,070	10	192,597	14
Illinois .....	5,008,100	1 02	3,020,521	08	Ohio .....	4,815,589	1 51	3,038,310	05
Indiana .....	2,006,094	1 01	1,949 862	08	Oregon .....	341,330	1 05	311,450	1 79
Iowa .....	2,280,400	1 40	1,551,897	06	Pennsylvania .....	8,125,571	1 00	4,324,460	1 01
Kansas .....	1,799,648	1 81	810,156	82	Rhode Island .....	2,380,517	8 45	403,727	1 47
Kentucky .....	1,525,994	03	1,104,527	67	South Carolina .....	320,590	33	192,371	19
Louisiana .....	456,500	40	334,888	36	Tennessee .....	642,770	42	608,409	45
Maine .....	400,020	62	605,237	1 03	Texas .....	661,370	41	727,079	46
Maryland .....	3,626,189	3 88	942,077	1 01	Vermont .....	158,486	48	522,575	1 57
Massachusetts .....	10,073,471	6 15	2,501,006	1 40	Virginia .....	850,444	56	602,637	40
Michigan .....	1,747,738	1 07	1,539,195	04	West Virginia .....	210,450	34	257,095	42
Minnesota .....	1,722,877	2 21	765,807	08	Wisconsin .....	1,721,507	1 31	1,581,417	1 20

Certain industries, not of the highest yet of very considerable importance as to aggregate value of product, are noticeable for their rapid extension at the west. These are furniture, with a product of \$77,845,725; agricultural implements, \$68,640,486; carriages and wagons, \$64,951,617; distilled liquors, \$41,063,663. In furniture, while the chief manufacturing states, New York (\$16,615,017) and Massachusetts (\$9,332,455), are at the east, a number of western states have attained great success. Illinois comes next, with \$8,042,210; Ohio produces to the value of \$7,686,929; Indiana, \$4,542,337; Michigan, \$3,793,968; Missouri, \$2,830,375; California, \$1,857,010; Iowa, \$1,293,504; Wisconsin, \$2,177,173. The only eastern states of consequence in this branch of manufacture, besides New York and Massachusetts, are Maryland, \$1,943,143, and Pennsylvania, \$8,025,239. The cities annually producing above \$1,000,000 each in furniture are: In New York, New York city and Brooklyn; in Illinois, Chicago; in Massachusetts, Boston; in Pennsylvania, Philadelphia; in Ohio, Cincinnati; in Michigan, Grand Rapids; in Missouri, Saint Louis; in California, San Francisco; in Maryland, Baltimore.

The manufacture of agricultural implements is still more strictly a western industry. The first state on the list is Ohio, with a product of \$15,479,825; Illinois follows, with \$13,498,575; New York, which is first in so many branches of production, is here third, with \$10,707,766; Indiana is fourth, with \$4,460,408. Of the eight other states which produce to the value of between \$1,000,000 and \$4,000,000, six, viz, Iowa, Kentucky, Michigan, Minnesota, Missouri, and Wisconsin, lie west of the Alleghanies. The cities producing each annually \$1,000,000 worth or over are: In Ohio, Springfield and Dayton; in Illinois, Chicago; in New York, Auburn; in Kentucky, Louisville.

In the manufacture of carriages and wagons Ohio leads, with a product of \$10,043,404; New York follows, with \$8,888,479; Illinois shows \$5,003,053; Pennsylvania has \$4,760,723; Wisconsin, \$4,350,454; Massachusetts, \$4,048,141; Indiana, \$3,998,520; Michigan, \$2,741,143; Connecticut, \$2,605,591; Missouri, \$2,483,738; Iowa, \$2,212,197. None of the other states report as much as \$2,000,000 worth of product. The cities producing in this industry an annual value of \$1,000,000 or over are: In Ohio, Cincinnati and Columbus; in New York, New York city; in Illinois, Chicago; in Pennsylvania, Philadelphia; in Connecticut, New Haven; in Missouri, Saint Louis.

In the distillation of spirits the great grain-growing states of the west have an unquestioned supremacy. Illinois produces to the value of \$14,600,760; Kentucky, \$8,281,018; Ohio, \$6,692,736; Indiana, \$2,997,063. No other state produces as much as \$2,000,000 worth.

In the manufacture of malt liquors, on the other hand, the chief producing states are found at the east. New York leads, with \$35,392,677; Pennsylvania follows, with \$10,124,348; a western state, Ohio, is third, with \$9,125,014; and another, Wisconsin, fourth, with \$6,312,173. Illinois shows \$5,798,109; Massachusetts, \$5,112,227; Missouri, \$5,048,077; New Jersey, \$4,532,733; California, \$3,862,431. Seven other states produce to the value of between \$1,000,000 and \$3,000,000 each.

#### THE MANUFACTURING CENTERS OF THE UNITED STATES.

The growth of cities in the United States has formed a marked feature of our social and industrial history. The following table shows the number of cities of 8,000 inhabitants and over at each census, beginning in 1790, and the aggregate urban population of the country in comparison with the total population at corresponding periods:

Date.	Population of United States.	Number of cities.	Population of cities.	Inhabitants of cities in each 100 of the total population.
1790.....	3,929,214	6	131,472	3.3
1800.....	5,308,483	6	210,873	3.9
1810.....	7,239,881	11	356,920	4.9
1820.....	9,633,822	13	475,135	4.9
1830.....	12,866,020	26	804,509	6.7
1840.....	17,069,453	44	1,453,094	8.5
1850.....	23,191,876	85	2,897,686	12.5
1860.....	31,443,321	141	5,072,256	16.1
1870.....	38,558,371	226	8,071,875	20.9
1880.....	50,155,783	286	11,318,547	22.5

From this table it appears that, speaking roundly, in 1790 one-thirtieth of the population of the country was found in cities; in 1800, one twenty-fifth; in 1810, and again in 1820, one-twentieth; in 1830, one-fifteenth; in 1840, one-twelfth; in 1850, one-eighth; in 1860, one-sixth; in 1870, one-fifth; and in 1880, two-ninths.

It would be difficult to say in what proportion the growth of the cities of the country, as a body, has been due to commercial, and in what proportion to industrial forces, even had we official statistics covering our internal traffic, which we have not; but I conceive that no one will hesitate to assent to the proposition that the growth of the cities of the United States since 1850 has been due in far greater measure to their development as manufacturing centers than to their increased business as centers for the distribution of commercial products.

In the present volume are presented (Table VI) the manufacturing statistics of 100 cities. On pages 379, 380 will be found the summary statement of the extent of their respective industries, together with their rank, both in population and in aggregate value of manufactured products.

## REMARKS ON THE STATISTICS OF MANUFACTURES.

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These cities are distributed by states and sections as follows:

Group.	Number of cities in Table VI.	Aggregate population.	Number of establishments.	Capital.	Number of hands employed.	Total amount of wages.	Value of materials.	Value of product.
<b>NORTH ATLANTIC.</b>								
Total .....	48	5,193,583	46,274	\$925,752,263	955,506	\$372,083,372	\$1,197,692,073	\$1,921,454,498
Maine .....	1	33,810	302	4,243,225	7,129	1,541,997	6,813,002	9,832,991
New Hampshire .....	1	32,630	121	15,149,153	10,838	3,370,404	7,901,066	14,136,305
Massachusetts .....	14	837,251	7,332	172,685,313	184,039	69,720,371	216,745,677	352,895,514
Rhode Island .....	1	104,857	1,205	27,177,006	22,891	9,404,110	22,794,327	42,597,512
Connecticut .....	3	132,540	1,025	29,134,648	28,964	11,952,350	25,769,502	45,935,037
New York .....	12	2,334,461	21,553	338,520,998	371,322	152,650,523	514,816,358	813,992,251
New Jersey .....	7	439,058	3,244	64,931,907	78,827	31,587,056	124,241,809	184,460,500
Pennsylvania .....	9	1,278,976	11,492	273,010,013	251,496	91,796,501	278,000,352	457,687,758
<b>SOUTH ATLANTIC.</b>								
Total .....	11	800,036	6,527	76,321,054	104,479	30,760,087	92,054,042	153,783,585
Delaware .....	1	42,478	258	10,744,389	7,852	3,174,821	7,884,847	13,295,370
Maryland .....	1	332,313	3,083	38,580,773	56,398	15,117,480	47,974,297	78,417,304
District of Columbia .....	1	147,293	971	5,552,526	7,146	3,924,012	5,365,400	11,882,316
Virginia .....	3	107,222	818	9,210,077	18,995	3,926,733	10,202,054	20,889,108
West Virginia .....	1	30,737	227	4,868,288	5,512	2,192,255	5,203,631	9,259,844
South Carolina .....	1	49,984	194	1,718,300	2,146	639,030	1,408,375	2,732,590
Georgia .....	3	90,009	376	5,040,701	6,490	1,785,747	7,804,538	11,397,053
<b>NORTH CENTRAL.</b>								
Total .....	27	2,221,931	18,761	312,843,405	316,134	126,275,438	528,194,860	792,590,087
Ohio .....	6	576,477	5,752	94,197,062	98,404	36,209,256	110,881,136	194,557,894
Indiana .....	4	157,258	1,399	19,702,166	19,780	7,700,265	34,922,460	50,547,173
Illinois .....	4	579,455	4,249	78,785,567	88,505	38,089,370	197,012,245	275,478,242
Michigan .....	3	169,049	1,354	24,094,277	23,520	9,004,020	25,950,211	43,120,044
Wisconsin .....	1	115,587	844	18,700,914	20,886	6,940,105	28,976,872	43,473,812
Minnesota .....	2	88,360	994	12,741,441	10,574	4,836,593	20,993,690	40,269,839
Iowa .....	3	66,493	680	7,716,838	6,089	2,692,898	9,008,010	15,018,576
Missouri .....	3	438,734	3,380	54,403,840	46,631	20,061,007	82,313,803	125,850,641
Nebraska .....	1	30,518	154	1,835,800	1,698	726,918	2,527,476	4,280,866
<b>SOUTHERN CENTRAL.</b>								
Total .....	9	538,873	3,036	43,128,035	40,433	14,855,230	48,616,216	81,467,480
Kentucky .....	3	173,011	1,383	26,649,809	22,121	7,580,027	27,600,773	45,284,728
Tennessee .....	2	70,942	406	6,206,355	7,059	2,158,437	7,731,898	13,010,700
Alabama .....	1	29,132	91	525,708	704	261,643	830,961	1,335,579
Louisiana .....	1	216,000	915	8,565,903	9,504	3,717,557	10,771,892	18,898,096
Texas .....	2	42,798	241	1,181,400	1,045	637,566	1,611,722	3,018,377
<b>WESTERN.</b>								
Total .....	5	346,331	3,028	41,574,261	34,625	13,230,118	59,430,607	96,077,181
Colorado .....	1	35,629	259	2,301,850	2,944	1,574,438	5,715,215	9,367,749
California .....	3	280,934	3,203	38,411,996	30,753	16,236,143	52,902,656	85,090,299
Utah .....	1	20,768	160	860,415	928	425,537	812,736	1,610,133

## RELATION OF NET PRODUCT TO GROSS PRODUCT.

Heretofore, in comparing one state with another, or one section with another, while speaking of individual industries, like the cotton manufacture, the saw-mill industry, etc., we have compared the gross product of one with that of another without any qualification, inasmuch as the relation of gross product to net product, to wages, etc., might be assumed to approach uniformity within the same industry. But in comparing one city with another, as to the aggregate of their respective industries, gross product can no longer safely be used to indicate the relative importance of the two as manufacturing centers. One of these cities may have the greater gross production, yet, inasmuch as this may be made up chiefly of the products of industries which consume an exceptionally large proportion of materials, the net product, the number of hands employed, the amount of wages paid, may all be smaller than in the other. On pages 424, 425 will be found some striking examples of the manner and the degree in which the gross product of cities may be raised by the occurrence of such industries as meat-packing; sugar refining, and the like, where the value of the ultimate product is made up of the value of the original materials to the extent of 80, 85, or 90 per cent., or even more. For the convenience of our readers we present the 100 cities of our list in order of their rank successively, according to (1) the gross value of product, (2) the net value of product, (3) the number of hands employed, and (4) the amount of wages paid.

No.	Name of city.	Gross product.	Name of city.	Net product.	Name of city.	Hands employed.	Name of city.	Wages paid.
		<i>Dollars.</i>		<i>Dollars.</i>		<i>Number.</i>		<i>Dollars.</i>
1	New York, N. Y.	472, 926, 437	New York, N. Y.	184, 484, 746	New York, N. Y.	227, 352	New York, N. Y.	97, 030, 021
2	Philadelphia, Pa.	324, 842, 935	Philadelphia, Pa.	125, 187, 458	Philadelphia, Pa.	185, 527	Philadelphia, Pa.	64, 265, 908
3	Chicago, Ill.	249, 022, 948	Chicago, Ill.	69, 813, 338	Chicago, Ill.	79, 414	Chicago, Ill.	34, 653, 462
4	Brooklyn, N. Y.	177, 223, 142	Boston, Mass.	48, 843, 833	Boston, Mass.	59, 213	Boston, Mass.	24, 924, 009
5	Boston, Mass.	130, 531, 998	Brooklyn, N. Y.	48, 133, 051	Baltimore, Md.	56, 338	Brooklyn, N. Y.	22, 487, 457
6	Saint Louis, Mo.	114, 333, 375	Cincinnati, Ohio	42, 882, 455	Cincinnati, Ohio	54, 517	Cincinnati, Ohio	19, 558, 029
7	Cincinnati, Ohio	105, 259, 105	Saint Louis, Mo.	38, 953, 508	Brooklyn, N. Y.	47, 587	Saint Louis, Mo.	17, 743, 532
8	Baltimore, Md.	78, 417, 304	Pittsburgh, Pa.	38, 805, 256	Saint Louis, Mo.	41, 825	Pittsburgh, Pa.	17, 168, 989
9	San Francisco, Cal.	77, 824, 290	Baltimore, Md.	30, 443, 007	Pittsburgh, Pa.	36, 930	Baltimore, Md.	15, 117, 489
10	Pittsburgh, Pa.	75, 915, 033	San Francisco, Cal.	29, 846, 227	Newark, N. J.	30, 046	San Francisco, Cal.	14, 928, 534
11	Newark, N. J.	69, 252, 705	Newark, N. J.	24, 648, 370	San Francisco, Cal.	28, 442	Newark, N. J.	13, 171, 230
12	Jersey City, N. J.	60, 473, 905	Providence, R. I.	19, 803, 285	Providence, R. I.	22, 391	Providence, R. I.	9, 464, 110
13	Cleveland, Ohio	48, 604, 050	Lowell, Mass.	17, 620, 715	Troy, N. Y.	22, 434	Cleveland, Ohio	8, 502, 935
14	Milwaukee, Wis.	43, 473, 812	Cleveland, Ohio	16, 074, 313	Cleveland, Ohio	21, 724	Buffalo, N. Y.	7, 442, 109
15	Buffalo, N. Y.	42, 937, 701	Buffalo, N. Y.	15, 885, 615	Milwaukee, Wis.	20, 886	Paterson, N. J.	6, 992, 487
16	Providence, R. I.	42, 597, 513	Milwaukee, Wis.	14, 497, 940	Lowell, Mass.	20, 039	Milwaukee, Wis.	6, 946, 105
17	Louisville, Ky.	35, 423, 203	Louisville, Ky.	14, 216, 093	Paterson, N. J.	19, 799	Worcester, Mass.	6, 910, 817
18	Lowell, Mass.	32, 935, 777	Troy, N. Y.	13, 053, 879	Buffalo, N. Y.	18, 021	Troy, N. Y.	6, 745, 874
19	Detroit, Mich.	30, 181, 416	Detroit, Mich.	12, 030, 421	Louisville, Ky.	17, 448	Detroit, Mich.	6, 806, 400
20	Minneapolis, Minn.	29, 973, 476	Paterson, N. J.	11, 879, 517	Fall River, Mass.	17, 085	Lowell, Mass.	5, 906, 501
21	Indianapolis, Ind.	27, 453, 089	Lawrence, Mass.	11, 196, 104	Lawrence, Mass.	16, 719	Louisville, Ky.	5, 835, 545
22	Worcester, Mass.	27, 292, 793	Jersey City, N. J.	10, 734, 920	Worcester, Mass.	16, 559	Lynn, Mass.	5, 833, 849
23	Lynn, Mass.	26, 828, 023	Worcester, Mass.	10, 710, 043	Detroit, Mich.	16, 110	New Haven, Conn.	5, 761, 374
24	Cambridge, Mass.	26, 665, 088	Rochester, N. Y.	10, 031, 451	New Haven, Conn.	15, 156	Lawrence, Mass.	5, 544, 513
25	Paterson, N. J.	26, 503, 350	New Haven, Conn.	9, 558, 062	Rochester, N. Y.	14, 607	Rochester, N. Y.	5, 217, 718
26	Troy, N. Y.	26, 497, 163	Lynn, Mass.	9, 394, 568	Richmond, Va.	14, 047	Fall River, Mass.	4, 659, 077
27	Rochester, N. Y.	26, 478, 266	Albany, N. Y.	9, 241, 647	Lynn, Mass.	12, 420	Jersey City, N. J.	4, 622, 655
28	Lawrence, Mass.	25, 058, 246	Richmond, Va.	8, 648, 594	Albany, N. Y.	11, 785	Albany, N. Y.	4, 566, 424
29	New Haven, Conn.	24, 040, 225	Fall River, Mass.	8, 861, 392	Jersey City, N. J.	11, 138	Washington, D. C.	3, 924, 612
30	Albany, N. Y.	21, 751, 069	Indianapolis, Ind.	8, 254, 087	Syracuse, N. Y.	10, 966	Indianapolis, Ind.	3, 917, 114
31	Richmond, Va.	20, 799, 106	New Orleans, La.	8, 036, 204	Manchester, N. H.	10, 838	New Orleans, La.	3, 717, 567
32	Fall River, Mass.	18, 913, 584	Washington, D. C.	6, 516, 916	Indianapolis, Ind.	10, 000	Cambridge, Mass.	3, 418, 470
33	New Orleans, La.	18, 808, 096	Cambridge, Mass.	6, 504, 339	New Orleans, La.	9, 504	Manchester, N. H.	3, 370, 404
34	Syracuse, N. Y.	14, 695, 674	Manchester, N. H.	6, 235, 239	Holyoke, Mass.	9, 011	Bridgeport, Conn.	3, 342, 925
35	Peoria, Ill.	14, 228, 134	Syracuse, N. Y.	6, 151, 238	Trenton, N. J.	8, 902	Wilmington, Del.	3, 174, 821
36	Manchester, N. H.	14, 133, 305	Holyoke, Mass.	5, 927, 754	Wilmington, Del.	7, 852	Trenton, N. J.	3, 150, 119
37	Allegheny, Pa.	13, 731, 792	Minneapolis, Minn.	5, 698, 853	Cambridge, Mass.	7, 543	Syracuse, N. Y.	3, 042, 135
38	Holyoke, Mass.	13, 687, 327	Bridgeport, Conn.	5, 638, 278	Bridgeport, Conn.	7, 508	Richmond, Va.	3, 006, 456
39	Reading, Pa.	13, 251, 895	Dayton, Ohio	5, 551, 238	Springfield, Mass.	7, 360	Springfield, Mass.	2, 906, 130
40	Wilmington, Del.	13, 205, 370	Wilmington, Del.	5, 320, 623	Washington, D. C.	7, 146	Hartford, Conn.	2, 848, 041
41	Springfield, Mass.	12, 891, 870	Trenton, N. J.	5, 291, 823	Portland, Me.	7, 129	Holyoke, Mass.	2, 743, 142
42	Trenton, N. J.	12, 712, 762	Springfield, Mass.	5, 165, 707	Toledo, Ohio	6, 738	Allegheny, Pa.	2, 652, 774
43	Dayton, Ohio	11, 985, 483	Hartford, Conn.	4, 969, 740	Utica, N. Y.	6, 710	Minneapolis, Minn.	2, 583, 253
44	Washington, D. C.	11, 882, 316	Allegheny, Pa.	4, 913, 630	Reading, Pa.	6, 695	Dayton, Ohio	2, 293, 630
45	Hartford, Conn.	11, 437, 200	Reading, Pa.	4, 854, 185	Allegheny, Pa.	6, 471	Toledo, Ohio	2, 260, 456

## REMARKS ON THE STATISTICS OF MANUFACTURES.

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No.	Name of city.	Gross product.	Name of city.	Net product.	Name of city.	Hands employed.	Name of city.	Wages paid.
		<i>Dollars.</i>		<i>Dollars.</i>		<i>Number.</i>		<i>Dollars.</i>
46	Toledo, Ohio .....	10,000,074	Peoria, Ill. ....	4,071,658	Hartford, Conn. ....	0,300	Saint Paul, Minn. ....	2,254,340
47	Bridgeport, Conn. ....	10,458,212	Saint Paul, Minn. ....	4,567,290	Dayton, Ohio .....	0,025	Reading, Pa. ....	2,210,200
48	Saint Paul, Minn. ....	10,286,303	Toledo, Ohio .....	4,244,075	New Bedford, Mass. ....	5,812	Wheeling, W. Va. ....	2,102,255
49	Salem, Mass. ....	9,920,504	Columbus, Ohio .....	4,112,183	Wheeling, W. Va. ....	5,512	Taunton, Mass. ....	2,083,185
50	New Bedford, Mass. ....	9,895,955	Wheeling, W. Va. ....	4,055,013	Columbus, Ohio .....	5,400	New Bedford, Mass. ....	2,058,751
51	Portland, Me. ....	9,882,931	New Bedford, Mass. ....	3,928,081	Minneapolis, Minn. ....	5,344	Columbus, Ohio .....	1,901,304
52	Columbus, Ohio .....	9,646,079	Elizabeth, N. J. ....	3,912,170	Saint Paul, Minn. ....	5,230	Utica, N. Y. ....	1,917,037
53	Denver, Colo. ....	9,367,749	Springfield, Ohio .....	3,911,874	Grand Rapids, Mich. ....	5,172	Grand Rapids, Mich. ....	1,895,072
54	Wheeling, W. Va. ....	9,250,844	Utica, N. Y. ....	3,692,798	Taunton, Mass. ....	5,154	Elizabeth, N. J. ....	1,740,450
55	Terre Haute, Ind. ....	9,185,246	Auburn, N. Y. ....	3,686,603	Nashville, Tenn. ....	4,701	Auburn, N. Y. ....	1,658,820
56	Utica, N. Y. ....	8,878,306	Denver, Colo. ....	3,652,594	Auburn, N. Y. ....	4,518	Springfield, Ohio .....	1,637,212
57	Nashville, Tenn. ....	8,597,278	Grand Rapids, Mich. ....	3,448,344	Camden, N. J. ....	4,370	Camden, N. J. ....	1,620,300
58	Scranton, Pa. ....	8,501,850	Taunton, Mass. ....	3,340,502	Lancaster, Pa. ....	4,252	Denver, Colo. ....	1,574,438
59	Springfield, Ohio .....	8,462,443	Camden, N. J. ....	3,205,905	Petersburg, Va. ....	4,100	Portland, Me. ....	1,541,907
60	Quincy, Ill. ....	8,103,277	Nashville, Tenn. ....	3,284,751	Salem, Mass. ....	4,181	Erie, Pa. ....	1,618,085
61	Evansville, Ind. ....	8,001,914	Evansville, Ind. ....	3,110,224	Peoria, Ill. ....	4,007	Peoria, Ill. ....	1,507,000
62	Auburn, N. Y. ....	7,710,409	Portland, Me. ....	3,018,090	Springfield, Ohio .....	3,970	Kansas City, Mo. ....	1,420,713
63	Erie, Pa. ....	7,683,356	Quincy, Ill. ....	3,013,397	Elizabeth, N. J. ....	3,840	Terre Haute, Ind. ....	1,406,382
64	Harrisburg, Pa. ....	7,603,416	Erie, Pa. ....	2,804,037	Erie, Pa. ....	3,767	Salem, Mass. ....	1,401,502
65	Camden, N. J. ....	7,644,705	Harrisburg, Pa. ....	2,688,140	Atlanta, Ga. ....	3,680	Evansville, Ind. ....	1,305,066
66	Taunton, Mass. ....	7,618,953	Salem, Mass. ....	2,662,117	Evansville, Ind. ....	3,600	Dubuque, Iowa .....	1,030,730
67	Grand Rapids, Mich. ....	7,405,007	Kansas City, Mo. ....	2,658,765	Harrisburg, Pa. ....	3,600	Scranton, Pa. ....	1,913,287
68	Elizabeth, N. J. ....	6,828,027	Dubuque, Iowa .....	2,491,043	Scranton, Pa. ....	3,540	Nashville, Tenn. ....	1,912,705
69	Kansas City, Mo. ....	6,328,681	Lancaster, Pa. ....	2,462,625	Terre Haute, Ind. ....	3,370	Quincy, Ill. ....	1,271,906
70	Dubuque, Iowa .....	6,328,889	Terre Haute, Ind. ....	2,441,527	Quincy, Ill. ....	3,326	Harrisburg, Pa. ....	1,230,522
71	Covington, Ky. ....	5,804,530	Memphis, Tenn. ....	1,904,081	Dubuque, Iowa .....	3,003	Lancaster, Pa. ....	1,177,240
72	Somerville, Mass. ....	5,852,535	Oswego, N. Y. ....	1,973,099	Denver, Colo. ....	2,044	Covington, Ky. ....	1,033,403
73	Fort Wayne, Ind. ....	5,816,924	Saint Joseph, Mo. ....	1,933,505	Covington, Ky. ....	2,025	Elmira, N. Y. ....	1,024,101
74	Oswego, N. Y. ....	5,010,944	Covington, Ky. ....	1,928,803	Fort Wayne, Ind. ....	2,735	Fort Wayne, Ind. ....	1,020,793
75	Bay City, Mich. ....	5,533,621	Scranton, Pa. ....	1,890,371	Elmira, N. Y. ....	2,728	Saint Joseph, Mo. ....	800,702
76	Lancaster, Pa. ....	5,404,937	Fort Wayne, Ind. ....	1,808,089	Kansas City, Mo. ....	2,548	Atlanta, Ga. ....	880,282
77	Saint Joseph, Mo. ....	5,143,585	Omaha, Nebr. ....	1,753,300	Poughkeepsie, N. Y. ....	2,482	Memphis, Tenn. ....	845,071
78	Elmira, N. Y. ....	4,877,300	Elmira, N. Y. ....	1,745,185	Memphis, Tenn. ....	2,208	Bay City, Mich. ....	802,488
79	Atlanta, Ga. ....	4,861,727	Atlanta, Ga. ....	1,702,400	Saint Joseph, Mo. ....	2,258	Poughkeepsie, N. Y. ....	761,711
80	Petersburg, Va. ....	4,043,016	Bay City, Mich. ....	1,682,068	Bay City, Mich. ....	2,238	Oakland, Cal. ....	750,917
81	Davenport, Iowa .....	4,468,978	Poughkeepsie, N. Y. ....	1,611,011	Charleston, S. C. ....	2,140	Oswego, N. Y. ....	750,495
82	Memphis, Tenn. ....	4,413,422	Davenport, Iowa .....	1,508,810	Oswego, N. Y. ....	2,132	Omaha, Nebr. ....	720,918
83	Poughkeepsie, N. Y. ....	4,392,900	Newport, Ky. ....	1,470,050	Newport, Ky. ....	1,748	Newport, Ky. ....	711,019
84	Omaha, Nebr. ....	4,280,866	Des Moines, Iowa .....	1,410,313	Davenport, Iowa .....	1,705	Davenport, Iowa .....	685,469
85	Des Moines, Iowa .....	4,220,709	Petersburg, Va. ....	1,352,809	Springfield, Ill. ....	1,698	Chelsea, Mass. ....	677,737
86	Springfield, Ill. ....	4,123,888	Charleston, S. C. ....	1,264,215	Omaha, Nebr. ....	1,088	Des Moines, Iowa .....	667,000
87	Sacramento, Cal. ....	4,003,934	Somerville, Mass. ....	1,244,348	Augusta, Ga. ....	1,080	Springfield, Ill. ....	650,253
88	Newport, Ky. ....	3,996,905	Sacramento, Cal. ....	1,182,045	Chelsea, Mass. ....	1,047	Charleston, S. C. ....	630,080
89	Chelsea, Mass. ....	3,846,250	Oakland, Cal. ....	1,108,371	Oakland, Cal. ....	1,887	Petersburg, Va. ....	602,740
90	Savannah, Ga. ....	3,398,297	Chelsea, Mass. ....	1,154,339	Des Moines, Iowa .....	1,878	Somerville, Mass. ....	594,508
91	Oakland, Cal. ....	3,181,066	Galveston, Tex. ....	1,092,719	Somerville, Mass. ....	1,200	Sacramento, Cal. ....	547,692
92	Augusta, Ga. ....	3,139,029	Springfield, Ill. ....	967,604	Savannah, Ga. ....	1,130	Galveston, Tex. ....	400,785
93	Charleston, S. C. ....	2,782,690	Savannah, Ga. ....	938,691	Salt Lake City, Utah .....	928	Augusta, Ga. ....	448,825
94	Galveston, Tex. ....	2,375,965	Augusta, Ga. ....	801,804	Sacramento, Cal. ....	924	Savannah, Ga. ....	447,040
95	Salt Lake City, Utah .....	1,610,133	Salt Lake City, Utah .....	797,397	Norfolk, Va. ....	752	Salt Lake City, Utah .....	425,597
96	Norfolk, Va. ....	1,455,987	Norfolk, Va. ....	504,901	Hoboken, N. J. ....	723	Norfolk, Va. ....	317,528
97	Mobile, Ala. ....	1,335,579	Mobile, Ala. ....	504,018	Mobile, Ala. ....	704	Hoboken, N. J. ....	285,004
98	Wilkesbarre, Pa. ....	1,133,344	Wilkesbarre, Pa. ....	472,095	Galveston, Tex. ....	684	Mobile, Ala. ....	261,643
99	Hoboken, N. J. ....	1,051,136	Hoboken, N. J. ....	402,880	Wilkesbarre, Pa. ....	645	Wilkesbarre, Pa. ....	223,300
100	San Antonio, Tex. ....	642,412	San Antonio, Tex. ....	313,960	San Antonio, Tex. ....	301	San Antonio, Tex. ....	197,781

## REMARKS ON THE STATISTICS OF MANUFACTURES.

In the following table we place against the title of each industry whose aggregate production in the United States reaches \$30,000,000 the names of the seven cities in which that production is carried to the highest point:

## RANK OF THE SEVEN LEADING CITIES IN EACH INDUSTRY SPECIFIED.

Industry.	First place.	Second place.	Third place.	Fourth place.	Fifth place.	Sixth place.	Seventh place.	Lowest amount taken.*
Agricultural implements .....	Springfield, Ohio	Chicago .....	Auburn .....	Louisville .....	Dayton .....	Saint Louis .....	Philadelphia .....	\$739,898
Blacksmithing .....	New York .....	Philadelphia .....	Boston .....	Brooklyn .....	Saint Louis .....	Chicago .....	Cincinnati .....	437,019
Boots and shoes, including custom work.	Lynn .....	Philadelphia .....	New York .....	Worcester .....	San Francisco .....	Cincinnati .....	Rochester .....	3,636,685
Bread and other bakery products.	New York .....	Philadelphia .....	Brooklyn .....	Chicago .....	Saint Louis .....	Baltimore .....	San Francisco .....	2,070,884
Brick and tile .....	Philadelphia .....	Chicago .....	Saint Louis .....	Baltimore .....	Pittsburgh .....	Kansas City .....	Washington .....	314,298
Carpentering .....	New York .....	Philadelphia .....	Brooklyn .....	Boston .....	Baltimore .....	San Francisco .....	Saint Louis .....	3,005,411
Carriages and wagons .....	Cincinnati .....	New York .....	Philadelphia .....	Chicago .....	New Haven .....	Saint Louis .....	Columbus .....	1,008,179
Clothing, men's .....	New York .....	Philadelphia .....	Chicago .....	Boston .....	Cincinnati .....	Baltimore .....	Rochester .....	4,342,000
Clothing, women's .....	New York .....	Philadelphia .....	Boston .....	Chicago .....	San Francisco .....	Cincinnati .....	Brooklyn .....	711,240
Cooperage .....	Brooklyn .....	Saint Louis .....	Pittsburgh .....	Chicago .....	Indianapolis .....	Philadelphia .....	New York .....	895,571
Cotton goods .....	Lowell .....	Fall River .....	Philadelphia .....	Manchester .....	Lawrence .....	New Bedford .....	Holyoke .....	3,088,851
Drugs and chemicals .....	Philadelphia .....	Brooklyn .....	New York .....	Jersey City .....	Newark .....	Saint Louis .....	Chicago .....	959,850
Dyeing and finishing textiles .....	Philadelphia .....	Lawrence .....	Providence .....	Lowell .....	Paterson .....	Manchester .....	New York .....	690,236
Flouring and grist-mill products.	Minneapolis .....	Saint Louis .....	New York .....	Milwaukee .....	Terre Haute .....	Brooklyn .....	Rochester .....	2,550,815
Foundry and machine-shop products.	New York .....	Philadelphia .....	Chicago .....	Brooklyn .....	Boston .....	Saint Louis .....	Cincinnati .....	5,723,608
Furniture .....	New York .....	Chicago .....	Philadelphia .....	Cincinnati .....	Boston .....	Saint Louis .....	Grand Rapids .....	1,831,172
Iron and steel .....	Pittsburgh .....	Chicago .....	Cleveland .....	Troy .....	Seranton .....	Milwaukee .....	Wheeling .....	4,306,567
Leather, curried .....	Newark .....	Salem .....	Boston .....	Lynn .....	Milwaukee .....	Chicago .....	Cincinnati .....	1,700,426
Leather, tanned .....	Newark .....	Chicago .....	Salem .....	Milwaukee .....	Cincinnati .....	San Francisco .....	Louisville .....	1,855,590
Liquors, distilled .....	Peoria .....	Cincinnati .....	Chicago .....	Louisville .....	Terre Haute .....	Covington .....	Boston .....	596,500
Liquors, malt .....	New York .....	Philadelphia .....	Brooklyn .....	Cincinnati .....	Saint Louis .....	Boston .....	Milwaukee .....	4,034,319
Lumber, planed .....	Chicago .....	New York .....	Brooklyn .....	Denver .....	Buffalo .....	Pittsburgh .....	Saint Louis .....	756,936
Lumber, sawed .....	Bay City .....	Muskegon .....	Minneapolis .....	Saginaw .....	Cincinnati .....	Evansville .....	Davenport .....	828,080
Marble and stone work .....	New York .....	Philadelphia .....	Boston .....	Brooklyn .....	Chicago .....	Baltimore .....	Cincinnati .....	836,863
Mixed textiles .....	Philadelphia .....	New York .....	Lawrence .....	Paterson .....	Boston .....	Louisville .....	Worcester .....	630,700
Paper .....	Holyoke .....	Philadelphia .....	Lawrence .....	Wilmington .....	Louisville .....	Troy .....	Dayton .....	476,104
Printing and publishing .....	New York .....	Philadelphia .....	Chicago .....	Boston .....	Cincinnati .....	Saint Louis .....	San Francisco .....	2,987,576
Saddlery and harness .....	Saint Louis .....	Newark .....	Cincinnati .....	New York .....	Louisville .....	Baltimore .....	Chicago .....	746,247
Sash, doors, and blinds .....	Chicago .....	Saint Louis .....	New York .....	Cleveland .....	Philadelphia .....	San Francisco .....	Brooklyn .....	738,722
Ship-building † .....	Philadelphia .....	New York .....	Brooklyn .....	Wilmington .....	Boston .....	Baltimore .....	San Francisco .....	1,087,843
Silk and silk goods .....	Paterson .....	New York .....	Philadelphia .....	Hartford, Conn .....	Brooklyn, N. Y. .....	Holyoke .....	Newark .....	468,250
Slaughtering and meat-packing, not including retail butchering establishments.	Chicago .....	New York .....	Jersey City .....	Cincinnati .....	Indianapolis .....	Saint Louis .....	Brooklyn .....	8,010,492
Sugar and molasses, refined .....	Brooklyn .....	Philadelphia .....	Jersey City .....	Boston .....	New York .....	Cambridge .....	San Francisco .....	5,932,000
Tinware, copperware, and sheet-iron ware.	Baltimore .....	New York .....	Philadelphia .....	Chicago .....	Saint Louis .....	Boston .....	San Francisco .....	940,499
Tobacco, chewing, smoking, and snuff.	Richmond .....	Saint Louis .....	Jersey City .....	New York .....	Petersburg .....	Louisville .....	Brooklyn .....	2,302,703
Tobacco, cigars and cigarettes .....	New York .....	San Francisco .....	Cincinnati .....	Philadelphia .....	Chicago .....	Baltimore .....	Detroit .....	1,198,870
Woolen manufactures (all classes) ‡	Philadelphia .....	Lawrence .....	Providence .....	Lowell .....	New York .....	Manchester .....	Boston .....	2,069,488

\* The figures in this column represent the amount of production, for each industry enumerated, which takes place in the city occupying the seventh rank in that respect, *e. g.*, Philadelphia, which is seventh in the manufacture of agricultural implements, produces them to the value of \$739,898.

† Manistee, Mich., produces lumber, sawed, to the value of \$3,044,500. Menominee, Mich., produces lumber, sawed, to the value of \$1,294,834.

‡ Chester, Pa., is also an important center, building to the value of \$1,806,790. Bath, Me., is also a leading center for wooden ship-building.

§ Includes carpets, felt goods, hosiery and knit goods, wool hats, woolen goods, and worsted goods.

## REMARKS ON THE STATISTICS OF MANUFACTURES.

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In the following table we give for each of the thirty cities having the largest gross manufacturing product the six leading industries therein pursued:

RANK OF THE SIX LEADING INDUSTRIES IN THE CITIES SPECIFIED.

No.	Names of 30 leading cities.	1.	2.	3.	4.	5.	6.	Lowest amount taken.*
1	New York, N. Y. ....	Clothing, men's ....	Slaughtering .....	Printing and publishing.	Liquors, malt .....	Clothing, women's ..	Tobacco, cigars, and cigarettes.	\$18,347,108
2	Philadelphia, Pa. ....	Sugar and molasses	Woolen goods .....	Clothing, men's ....	Mixed textiles .....	Cotton goods .....	Carpets .....	14,263,510
3	Chicago, Ill. ....	Slaughtering .....	Clothing, men's ....	Iron and steel .....	Foundry .....	Furniture .....	Printing and publishing.	5,959,295
4	Brooklyn, N. Y. ....	Sugar and molasses	Slaughtering, etc.	Foundry, etc. ....	Bread, etc. ....	Paints .....	Carpentering .....	5,124,407
5	Boston, Mass. ....	do .....	Clothing, men's ....	Slaughtering, etc. ..	Foundry, etc. ....	Printing, etc. ....	Liquors, malt .....	4,420,204
6	Saint Louis, Mo. ....	Flour and grist .....	Slaughtering .....	Foundry, etc. ....	Tobacco, chewing..	Liquors, malt .....	Sugar and molasses	4,475,740
7	Cincinnati, Ohio ....	Clothing, men's ....	do .....	do .....	Liquors, distilled..	Carriages and wagons.	Liquors, malt .....	4,580,570
8	Baltimore, Md. ....	do .....	Fruits, vegetables, etc.	Fertilizers .....	Foundry, etc. ....	Boots and shoes ..	Tinware, etc. ....	3,371,081
9	San Francisco, Cal. ...	Slaughtering .....	Sugar and molasses	Boots and shoes .....	do .....	Clothing, men's ....	Tobacco, cigars ...	3,720,813
10	Pittsburgh, Pa. ....	Iron and steel .....	Foundry, etc. ....	Glass .....	Clothing, men's ...	Iron pipe, wrought.	Slaughtering .....	1,451,816
11	Newark, N. J. ....	Smelting and refining.	Leather, curried ..	Leather, tanned..	Jewelry .....	Liquors, malt .....	Hats and caps ....	2,500,578
12	Jersey City, N. J. ....	Sugar and molasses	Slaughtering .....	Tobacco, chewing..	Drugs and chemicals.	Iron and steel .....	Soap and candles ..	1,310,000
13	Cleveland, Ohio .....	Iron and steel .....	do .....	Foundry .....	Clothing, men's ...	Wire .....	Liquors, malt .....	1,249,502
14	Milwaukee, Wis. ....	Slaughtering .....	Iron and steel .....	Flour, etc. ....	Liquors, malt .....	Clothing, men's ...	Foundry, etc. ....	2,252,784
15	Buffalo, N. Y. ....	Foundry, etc. ....	Slaughtering .....	Glucose .....	Clothing, men's ...	Flour, etc. ....	Malt .....	2,002,893
16	Providence, R. I. ....	Jewelry .....	Foundry, etc. ....	Woolen goods .....	Worsted goods .....	Dyeing and finishing.	Cotton goods .....	2,250,273
17	Louisville, Ky. ....	Slaughtering .....	do .....	Tobacco, chewing..	Leather, tanned..	Liquors, distilled ..	Clothing, men's ...	1,308,718
18	Lowell, Mass. ....	Cotton goods .....	Woolen goods .....	Foundry, etc. ....	Dyeing and finishing.	Worsted goods ....	Carpentering .....	627,450
19	Detroit, Mich. ....	Iron and steel .....	Clothing, men's ...	do .....	Slaughtering .....	Flour, etc. ....	Cars, railr'd, street, and repairing.	1,448,756
20	Minneapolis, Minn. ...	Flour, etc. ....	Lumber, sawed .....	do .....	Sash, doors, etc. ...	Cooperage .....	Clothing, men's ...	886,700
21	Indianapolis, Ind. ...	Slaughtering .....	Foundry, etc. ....	Flour, etc. ....	Cooperage .....	Fertilizers .....	Furniture .....	917,600
22	Worcester, Mass. ....	Boots and shoes .....	Wire .....	Foundry, etc. ....	Iron and steel .....	Slaughtering .....	Woolen goods .....	982,175
23	Lynn, Mass. ....	do .....	Boots and shoes, cut stock.	Leather, curried ..	Leather, tanned..	Carpentering .....	Boot and shoe findings.	209,700
24	Cambridge, Mass. ....	Slaughtering .....	Sugar and molasses	Soap and candles ..	Printing and publishing.	Musical instruments, organs.	Leather, curried ...	753,000
25	Paterson, N. J. ....	Silk and silk goods.	Foundry, etc. ....	Thread, linen .....	Mixed textiles .....	Cotton goods .....	Dyeing and finishing.	918,593
26	Troy, N. Y. ....	Iron and steel .....	do .....	Shirts .....	Furnishing goods, men's.	Liquors, malt .....	Clothing, men's ...	685,436
27	Rochester, N. Y. ....	Clothing, men's ...	Boots and shoes ..	Flour, grist-mill ...	Liquors, malt .....	Foundry, etc. ....	Tobacco, chewing, etc.	1,200,747
28	Lawrence, Mass. ....	Worsted goods .....	Cotton goods .....	Woolen goods .....	Mixed textiles .....	Dyeing and finishing.	Paper .....	972,050
29	New Haven, Conn. ...	Slaughtering .....	Corsets .....	Boots and shoes, rubber.	Hardware .....	Carriages and wagons.	Clothing, men's ...	1,122,080
30	Albany, N. Y. ....	Foundry and machinery, etc.	Liquors, malt .....	Boots and shoes ...	Malt .....	Bread, etc. ....	do .....	917,646

\* The figures in this column represent the amount of production in each city, in succession, within that branch of manufacture which stands sixth on the list of the industries of that city; e. g., the manufacture of tobacco, cigars, and cigarettes, which is sixth in order of importance of the industries of New York city, is there carried on to the extent of \$18,347,108. Philadelphia's sixth industry—the carpet manufacture—yields a product of \$14,263,510. On the other hand, the sixth industry of Chicago—printing and publishing—yields but \$5,959,295. The sixth industry of Rochester yields \$1,200,747, though the sixth industry of Lynn (which surpasses Rochester in aggregate manufacturing product) is only \$209,700.

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## COMPARISON OF THE TABLES OF OCCUPATIONS WITH THE STATISTICS OF MANUFACTURES.

The facts relating to the occupations of the individual members of the community are obtained from the population or family schedule. Here is required to be recorded the habitual occupation or means of livelihood of each person enumerated in the census.

It might at first be thought that the totals obtained through the compilation of these individual returns, so far as they relate to the manufacturing and mechanical classes of the population, should conform closely to those obtained through the compilation of the returns of manufacturers as to the number of hands employed, or else that one or the other set of tables must be in error. This, however, does not follow as a matter of course.

The following paragraphs from the remarks which preface the statistics of occupation in the population volume will explain the causes of such discrepancies: (a)

**THE COMPLETENESS OF THESE TABLES.**—Comparison of the numbers reported in the tables of Occupations with the numbers found under corresponding titles in the tables of Manufactures will discover discrepancies of very important extent which require to be here accounted for, not only in justification of these tables, but for the additional light which such an investigation throws upon the industrial conditions of the country.

Not only do important discrepancies exist, but they are found to be of two kinds, of diametrically opposite direction. In one class of cases the numbers reported in the tables of Occupations appear to be too large; in the other, too small.

First, however, it needs to be stated just what constitutes a discrepancy. A failure in the numbers reported in the one place and in the other to balance exactly is not a discrepancy; on the contrary, this is to be expected; and if the numbers are found to be in excess in the proper set of tables, and to be in excess to only the proper extent, this furnishes a statistical proof of high character. The tables in which the numbers should thus be *generally* found in excess are the Occupation tables. The reason for the excess being found in these tables and not in the others is that the schedule of manufactures gives an *average* return of the number of "hands employed", while the statistics of occupations are taken from a count of individuals upon the population schedule, and present, therefore, a *maximum* return, embracing, as they do, artisans of every class out of employment, temporarily disabled, or for some other reason not included in the actual return of any establishment.

The degree to which such excess should extend will depend, within certain limits, upon the nature of the special occupation, as well as upon the general condition of manufacturing industry throughout the country at the time.

*First.* Those cases where the numbers in the tables of Occupations do not exceed those in the tables of Manufactures, but even fall below them. Instances of this kind are principally confined to the returns of factory operatives.

A portion of these omissions, undoubtedly, may be accounted for by the large number returned under the head of "Mill and factory operatives not specified", as well as by the number of "Employés of manufacturing establishments not specified"; but in the main the explanation of the discrepancies is found in the fact that women and children employed in factories are omitted in large numbers from the Occupation tables.

Thus omissions may take place either through the failure of the enumerators to ask questions relating to occupation concerning such persons, assuming that they have no avocation outside their homes, or from the indisposition of the persons themselves or the heads of their families to speak of them as in employment. Especially in the case of children, who are part of the time in school and part of the time in the mill, would the mother or father be likely to give a preference to the former over the latter mode of statement, particularly when, as in tens of thousands of cases the country over, the child comes within the period of life respecting which there is a *legal requirement* of school attendance.

When we come, however, to occupations pursued mainly by adults, and, indeed, almost exclusively by adult males, like the trades of carpenter, blacksmith, mason, or printer, or the professions of lawyer, physician, or clergyman, the force of this cause is no longer felt.

*Second.* Those instances where the numbers appearing in the tables of Occupations exceed those in the tables of Manufactures by more than the probable or possible difference between a maximum and an average return. Unlike the class first noted, these discrepancies affect mainly the statistics of those occupations which are pursued singly, or by twos and threes, out of large mills and factories, and even in a considerable degree out of shops. Discrepancies of this character in no degree discredit the statistics of occupations. They arise from the fact that the return of "productive industry" is not, as indeed it is not expected to be, a complete return of the mechanical production of the country.

The census attempts the enumeration of mechanical industry only as it is carried on in shops, and thus fails to embrace that large body of individual labor which is not attached to distinct "establishments of productive industry". Moreover, the census law establishes a minimum (namely, the value of \$500 annually), below which the production of shops shall not be returned.

Thus the trades of blacksmith, carpenter, mason, painter, and, in a somewhat smaller degree, of plumber, locksmith, and harness-maker, are largely pursued by persons working singly, and not occupying, for the purpose of their respective trades, what would be popularly recognized as "an establishment of productive industry", perhaps having only a chest of tools in some room of the house, and perhaps also engaged in their trades for only one season of the year and producing to less than the value of \$500. The census has never obtained a full report of the production of these trades so far as they are pursued out of shops and factories.

Again, in making such comparisons between the tables of Occupations and those of Manufactures, great care must be taken to ascertain whether the titles taken for the purpose really correspond. In some cases, where the apparent correspondence is greatest, the quantities are, in fact, not commensurable. An example may be found in the brick and tile manufacture. It would, at first, seem that the "hands employed" should answer to the "brick-and-tile-makers" in the tables of Occupations; but, on the contrary, a considerable portion of the hands employed in large brick-yards, not infrequently exceeding indeed the number of craftsmen, are classed and known as common laborers, and are so returned in the census.

In the same way a factory producing fine furniture may report 100 hands employed, but of these only 80 may be cabinet-makers in the usual, and indeed proper, sense of that term, while the others may be simply unskilled laborers, or painters, varnishers, and locksmiths. In a currier's shop not all the hands are necessarily carriers in the craftsman's sense of that term. All textile factories employ persons who are not "operatives"—yard hands, watchmen, millwrights, or mechanics, and simple laborers, it may be, in considerable numbers.

<sup>a</sup> See pages 703-909, volume on Population, Tenth Census; also, pages 1343-1399, Compendium of the Tenth Census.



There are, in addition, certain industries respecting which peculiar difficulties arise, from the distinct nature of the several avocations pursued under one roof in the same establishment. Thus, it might be supposed that the manufacture of "agricultural implements" is sufficiently distinct to secure a reasonably close comparison between the number of "hands employed" and the number of "agricultural implement makers" borne on the tables of Occupations. But this is not so. A large establishment producing agricultural implements is really divided into a number of shops or factories, where perfectly distinct trades are carried on. There is the foundery, where the iron parts of the machine are cast, and the men working herein will report their occupation as that of foundrymen. There are carpenter shops, where the wooden parts are made and shaped by carpenters, who call themselves by this term, and no other. There are also machine shops, paint shops, etc., where the artisans employed knew themselves as machinists or mechanics, or as painters and varnishers, and not as makers of agricultural implements. As a result of the peculiarities of this branch of industry, the "hands employed" in the statistics of Manufactures will exceed many times over the number of persons reporting themselves as "agricultural implement makers". An examination of the schedules from those towns where this industry is pursued will reveal the operation of this cause.

On the other hand, the very success with which specific statements of occupation are, in most cases, obtained serves to deplete some general title so far that the figures, if not interpreted in view of the specific titles, would be simply grotesque. Thus, the census reports but 7,858 "mechanics". As a matter of fact, there are many hundreds of thousands of mechanics in the United States, but all save the residue mentioned have been reported in connection with individual mechanical trades. The small number of "mechanics", therefore, instead of showing a failure of the enumeration in this respect, shows a rather striking degree of success in securing specific descriptions of the avocations of the people.

There is also to be noted the probable transfer of a considerable number of "laborers", who are mainly engaged in agriculture, to the class performing "personal and professional services" through the failure of the schedules to indicate their avocations more precisely. In much the same way, doubtless, no small number of "messengers", "laborers", "watchmen", and "clerks", who are really employed in those capacities in connection with manufacturing establishments, at least through portions of the year, have been transferred to other classes through the lack of more precise information regarding the field of their work.

INCOMPLETE SUBDIVISION OF EMPLOYMENTS.—In addition to the apparent deficiencies or discrepancies which have been noted, one general remark will suffice in explanation of many of the entries in the tables in respect to the accuracy of which question may naturally arise.

It must be borne in mind that the number of persons who are reported under a certain specified occupation does not necessarily embrace all the persons who perform the duties usually associated with that title, but only those who discharge such duties to the exclusion of other gainful occupations, or, at least, as their principal or sole professed means of support.

The organization of labor and the subdivision of industry vary, in respect to completeness and minuteness, with each successive community. As communities advance in industrial character functions become separated and distinct occupations become recognized, and this country, from its peculiar conditions, presents almost every degree between the two extremes of industrial development in this particular. It is common to find on the returns from the present territories, and even some of the present states of the Union, such entries as these: "Carpenter and miner," "Blacksmith and carpenter," "Blacksmith and miner," and in many of the communities of the land it is difficult to draw distinctions much finer than those between the agricultural, the mining, the mechanical, and the commercial pursuit or profession. Indeed, even this is not always practicable, since it is a matter of notoriety that in many of the states of the Union, and those not among the newest, the occupations of carpenter and farmer, or blacksmith and farmer, or farmer and fisherman, are frequently united in one person. In larger and more prosperous communities a clear separation between such occupations takes place; yet the carpenter, for instance, in nine out of ten counties in the United States performs half a dozen functions which in cities are recognized as belonging to distinct trades, such as carpenter, cabinet maker, stair builder, sash and blind maker, etc.

ANOMALOUS ENTRIES.—Other seeming discrepancies, which demand at least an allusion here, occur where persons are returned as of certain special occupations in states where it is notorious that the industries represented are not carried on; or, again, where persons, not more than one, two, or five in number, are returned in a state under a description which implies a large body of workmen, as for example, one silk-mill operative in Colorado or Nevada. An adequate explanation of all cases of this general nature is found in the consideration that the census takes account of persons where they are actually residing and assigns them to their habitual occupation, whether it is being at the time pursued or not.

In the enumeration of hundreds of thousands of persons out of health, or out of employment, traveling, or visiting friends in other states, it is inevitable that such apparent anomalies should arise.

## REMARKS ON THE STATISTICS OF MANUFACTURES.

With these remarks we introduce the tables derived from the population or family schedule, showing the number of persons, with distinction of age, sex, and nativity, engaged in manufacturing, mechanical, and mining industries, in each state and territory:

PERSONS ENGAGED IN MANUFACTURES AND MECHANICAL AND MINING INDUSTRIES, BY STATES AND TERRITORIES, WITH AGE, SEX, AND NATIVITY: 1880.

States and Territories.	Persons occupied.	AGE AND SEX.								NATIVITY.						
		All ages.		10 to 15.		16 to 59.		60 and over.		United States.	Ireland.	Germany.	Great Britain.	Scandinavia.	British America.	Other countries.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.							
The United States.	3,837,112	3,205,124	631,988	86,677	46,930	2,978,845	577,157	139,602	7,901	2,611,325	284,175	368,110	225,730	44,615	153,035	149,222
1 Alabama.....	22,906	19,461	3,535	773	394	17,226	3,067	1,462	74	21,139	311	418	206	27	88	767
2 Arizona.....	7,374	7,272	102	9	3	7,188	99	75	.....	4,328	553	429	516	71	211	1,266
3 Arkansas.....	11,338	10,632	706	138	30	9,993	639	501	28	10,092	201	439	212	40	78	270
4 California.....	118,282	109,690	8,592	621	193	105,363	8,324	3,706	75	48,084	9,660	9,837	8,869	1,561	5,190	35,663
5 Colorado.....	47,408	46,430	969	140	8	45,781	950	518	5	31,694	3,030	2,334	5,309	1,027	2,303	1,711
6 Connecticut.....	116,001	89,192	26,809	3,755	3,083	81,185	23,589	4,252	227	78,465	15,940	5,097	7,469	770	7,043	1,307
7 Dakota.....	9,101	8,790	311	7	1	8,681	309	102	1	5,417	470	593	726	573	963	359
8 Delaware.....	14,148	12,284	1,864	401	173	11,252	1,657	631	34	12,327	858	342	473	19	34	95
9 Dist. of Columbia.	15,337	12,681	2,656	121	32	12,037	2,584	523	40	12,050	728	1,068	339	19	41	182
10 Florida.....	8,436	7,803	633	200	50	7,109	567	494	16	6,440	79	131	153	42	60	1,520
11 Georgia.....	36,167	28,954	7,213	895	659	26,364	6,456	1,095	98	34,010	401	365	273	31	38	140
12 Idaho.....	6,532	6,468	64	11	.....	6,351	64	106	.....	2,397	431	267	459	148	195	2,635
13 Illinois.....	205,570	177,471	28,099	3,228	1,557	168,092	26,299	6,151	243	116,492	12,297	36,391	15,454	10,475	5,012	9,449
14 Indiana.....	110,127	98,606	11,481	1,850	324	92,513	10,926	4,333	181	89,074	2,419	11,646	3,299	391	653	1,745
15 Iowa.....	69,941	61,490	8,442	625	80	58,156	8,252	2,718	110	50,180	2,007	3,160	3,807	2,237	1,496	1,985
16 Kansas.....	36,319	33,292	3,027	272	19	31,974	2,903	1,046	45	28,560	993	2,340	2,077	802	727	820
17 Kentucky.....	61,481	53,788	7,693	1,354	415	49,003	7,162	2,531	116	50,245	2,103	0,665	1,391	26	237	814
18 Louisiana.....	30,681	20,450	4,222	478	154	24,018	3,922	1,063	146	22,826	1,245	3,200	546	67	144	2,653
19 Maine.....	72,602	55,884	16,718	1,320	1,045	51,121	15,618	3,443	215	50,723	2,016	206	2,401	159	7,326	331
20 Maryland.....	85,337	70,614	14,723	1,021	1,017	65,122	13,989	3,571	317	67,743	2,686	11,446	2,180	50	230	393
21 Massachusetts.....	370,265	272,240	98,019	8,591	7,272	250,508	89,921	13,147	826	238,255	52,358	6,144	24,040	1,958	43,191	3,710
22 Michigan.....	130,013	118,284	12,029	1,705	493	112,251	11,974	4,268	222	74,053	5,226	13,559	9,508	3,240	19,635	5,541
23 Minnesota.....	39,789	35,611	4,278	309	97	34,201	4,149	1,001	32	20,867	1,359	5,460	1,587	5,485	3,394	1,637
24 Mississippi.....	13,145	11,353	1,792	188	121	10,404	1,047	761	24	11,014	200	363	217	80	56	225
25 Missouri.....	109,774	98,211	11,563	2,180	694	92,893	10,706	3,138	163	74,703	5,832	19,376	4,209	532	1,300	3,722
26 Montana.....	8,022	7,946	76	6	1	7,830	75	110	.....	3,094	855	415	646	101	663	1,256
27 Nebraska.....	18,255	16,529	1,726	92	13	16,047	1,694	390	19	12,712	555	1,966	962	649	547	864
28 Nevada.....	13,231	12,878	353	8	3	12,714	344	156	6	4,912	1,088	643	2,429	172	1,091	2,206
29 New Hampshire.....	58,037	40,675	17,362	1,257	1,353	37,222	15,898	2,196	201	42,200	3,232	281	1,786	67	10,328	143
30 New Jersey.....	160,561	131,647	28,914	5,113	3,377	121,180	25,252	5,354	285	109,606	14,532	18,334	12,087	507	896	4,509
31 New Mexico.....	4,377	4,042	335	18	34	3,938	290	80	11	3,219	189	182	154	30	87	516
32 New York.....	629,869	492,070	137,100	13,719	10,899	457,597	124,798	21,363	1,493	385,693	70,487	93,118	34,024	3,448	15,334	27,205
33 North Carolina.....	33,963	28,416	5,547	1,231	779	24,898	4,563	2,287	205	33,271	97	102	150	11	23	303
34 Ohio.....	242,294	210,362	31,932	6,106	1,795	193,762	29,620	10,494	517	172,097	8,209	35,673	15,649	376	3,145	7,145
35 Oregon.....	17,458	16,770	688	95	4	16,288	676	387	8	8,245	622	964	967	656	486	5,518
36 Pennsylvania.....	523,277	451,417	76,860	19,326	6,480	413,928	69,432	18,163	942	388,836	43,246	42,600	40,635	2,247	2,552	8,101
37 Rhode Island.....	66,160	46,072	20,088	2,957	2,576	41,278	17,372	1,837	140	40,278	9,108	685	7,060	282	8,238	509
38 South Carolina.....	19,693	15,887	3,811	425	283	14,184	3,415	1,278	113	18,819	260	332	153	11	19	104
39 Tennessee.....	36,082	32,442	3,640	643	196	29,885	3,343	1,914	101	33,546	642	729	666	80	76	343
40 Texas.....	30,346	28,238	2,108	265	34	26,927	2,041	1,046	33	22,460	951	2,885	1,066	195	311	2,478
41 Utah.....	10,212	9,401	811	158	32	8,773	711	470	88	4,249	126	196	3,513	686	540	902
42 Vermont.....	26,214	22,586	3,628	442	166	20,565	3,861	1,579	101	19,738	1,532	113	904	25	3,804	98
43 Virginia.....	63,059	54,607	8,452	1,769	577	49,136	7,634	3,702	241	61,191	438	631	506	20	57	216
44 Washington.....	7,296	7,182	164	38	2	6,955	159	139	3	3,796	302	377	575	262	550	1,434
45 West Virginia.....	26,288	24,840	1,448	527	32	23,120	1,878	1,193	38	22,861	870	1,457	884	7	76	133
46 Wisconsin.....	86,510	75,969	10,541	1,328	425	71,275	9,978	3,306	138	44,879	2,454	20,535	4,152	4,760	4,388	5,342
47 Wyoming.....	1,689	1,615	74	2	.....	1,597	74	16	.....	841	118	107	286	41	70	225

In introducing the corresponding table for the fifty principal cities of the country a caution needs to be given in addition to those which prefaced the statistics of occupation by states.

This is in regard to the discrepancies caused by the residence of persons outside the cities in which they labor. A similar cause operates, but in only an inconsiderable degree, as between states and territories. Thus, many workmen employed in New York state live across the Hudson, in New Jersey. Many workmen employed in Pennsylvania live across the Delaware, also in New Jersey; but, speaking generally, this cause does not operate to an extent which requires notice to be taken of it when writing of the statistics of occupations by states and territories. When we come to the comparative tables for cities, however, the case is different; this cause becomes one capable of producing great disturbance.

Take New York city for example. In addition to the thousands of persons who live in New Jersey, and cross the Hudson every day to pursue their avocations, and are thus lost to the tables of occupations for New York state, there is a vastly greater number who live in Brooklyn or elsewhere on Long Island, or who live above the Harlem river, coming in every morning by railway or ferry-boat, and thus are lost to the tables of occupations for New York city. This cause explains the fact that, while the manufacturing returns of New York city show 227,352 as the average number of persons employed—a number which would indicate an aggregate manufacturing population, 10 years of age and upward, of 250,000, 260,000, or 270,000, allowance being made on the various accounts heretofore mentioned—we find in fact but 213,003 persons resident in that city reporting themselves upon the population or family schedule as engaged in manufacturing or mechanical industries. On the other hand, although the manufacturing returns of Brooklyn show only 47,587, on the average, employed in establishments situated in that city, the returns of population give 92,669 persons residing there who announce themselves as engaged in manufacturing and mechanical industry. The ample explanation is that vast numbers of New York workmen live in Brooklyn. Put the two cities together, and a great part of the discrepancy disappears. Thus:

New York manufacturing returns.....	227,352
Brooklyn manufacturing returns.....	47,587
The two cities.....	274,939
New York occupation tables.....	213,003
Brooklyn occupation tables.....	92,669
The two cities.....	305,672

This, however, still leaves out of account the large numbers of New York workingmen who, as stated, go out into the country above the city or cross the river into New Jersey. Let us see if we can find any traces of these. Take the statistics for Jersey City:

Persons engaged in manufacturing and mechanical industry, by population returns.....	17,412
Persons, on the average, employed, as shown by the manufacturing returns.....	11,138
Difference.....	6,274

Here we have a large excess, accounted for by the fact that great numbers of persons who live in that "dormitory city", and who are in accordance with the census law returned there as a part of the resident population, work in New York city and are counted there as a part of the laboring population.

The effect of the same cause is seen in the case of another "dormitory city", viz, Camden, New Jersey, on the other side of the state. This city shows—

Persons engaged in manufacturing and mechanical industry, by population returns.....	7,000
Persons, on the average, employed, as shown by manufacturing returns.....	4,370
An excess of.....	2,630

or about 60 per cent., accounted for by the fact that many workmen cross the Delaware every morning to work in Philadelphia and return at night to sleep in another city and another state.

An even more striking instance of the complementary character of two neighboring cities is afforded by Pittsburgh and Allegheny city. In the former case, the numbers taken from the statistics of Manufactures show an excess of 74.17 per cent.; in the latter case, the figures taken from the statistics of Occupations show an excess of 78.69 per cent. The explanation is found in the fact that while Pittsburgh and Allegheny city are two distinct cities in law, they are in fact not only adjacent, but indistinguishable to the eye of the visitor.

Baltimore also shows a great discrepancy between the two sets of tables. Thus we have—

Persons engaged in manufacturing and mechanical industry, as by population returns.....	49,949
Persons, on average, employed, as by manufacturing returns.....	56,338
Deficiency.....	6,389

instead of an excess, as was to have been expected. Why is this? Here is no "dormitory city" to account for the loss, and a stranger might study the map of Baltimore and vicinity for some time without discovering the cause. Upon closer examination, however, he would see that a large body of population, numbering tens of thousands, belonging to what is popularly known as the city of Baltimore, has flowed across the boundary-line of the city and has formed a not inconsiderable suburban city, which is as yet even without a name, not to say a charter. Those who are familiar with Baltimore by personal visitation know that this extensive and closely-settled section is not even to be distinguished by the eye from the city proper. Upon the population schedule the residents of this section are returned as belonging to Baltimore county, yet the greater part of them are employed in the factories, shops, stores, and warehouses of Baltimore city. Boston, on account of its large number of suburban towns and cities (many of which, however, have an industrial *raison d'être* of their own), is another city which exhibits a similar apparent deficiency in the returns of the manufacturing classes on the population schedules.

With these remarks we introduce a table which shows for each of the fifty principal cities of the United States the total number of the manufacturing, mechanical, and mining classes resident in that city, in comparison with the total average number of persons reported on the manufacturing schedule as employed in establishments of productive industry situated therein:

City.	From occupation tables.	From manufactur- ing tables.	Excess per cent. of former.	Excess per cent. of latter.	City.	From occupation tables.	From manufactur- ing tables.	Excess per cent. of former.	Excess per cent. of latter.
Albany, N. Y. ....	13,558	11,785	15.04	.....	Lynn, Mass. ....	11,694	12,420	.....	6.21
Allegheny, Pa. ....	11,563	6,471	*78.69	.....	Milwaukee, Wis. ....	18,265	20,886	.....	14.35
Atlanta, Ga. ....	4,198	3,680	14.08	.....	Minneapolis, Minn. ....	8,921	5,344	†66.93	.....
Baltimore, Md. ....	46,949	56,338	.....	12.79	Nashville, Tenn. ....	4,617	4,791	.....	3.77
Boston, Mass. ....	53,900	59,213	.....	9.86	Newark, N. J. ....	29,983	30,046	.....	.21
Brooklyn, N. Y. ....	92,669	47,587	†94.74	.....	New Haven, Conn. ....	11,629	15,156	.....	30.33
Buffalo, N. Y. ....	23,289	18,021	29.23	.....	New Orleans, La. ....	10,108	9,504	†101.05	.....
Cambridge, Mass. ....	9,073	7,543	20.28	.....	New York, N. Y. ....	213,003	227,352	.....	6.74
Camden, N. J. ....	7,000	4,370	†60.18	.....	Paterson, N. J. ....	15,919	19,799	.....	24.37
Charleston, S. C. ....	5,134	2,146	†139.24	.....	Philadelphia, Pa. ....	171,526	185,527	.....	8.16
Chicago, Ill. ....	76,012	79,414	.....	3.25	Pittsburgh, Pa. ....	21,204	36,930	.....	*74.17
Cincinnati, Ohio. ....	47,286	54,517	.....	15.20	Providence, R. I. ....	23,774	22,891	3.86	.....
Cleveland, Ohio. ....	26,230	21,724	20.74	.....	Reading, Pa. ....	7,850	6,695	17.25	.....
Columbus, Ohio. ....	7,241	5,490	31.89	.....	Richmond, Va. ....	8,448	14,047	.....	66.25
Dayton, Ohio. ....	6,954	6,025	15.42	.....	Rochester, N. Y. ....	17,910	14,607	22.61	.....
Denver, Colo. ....	6,422	2,944	†118.14	.....	Saint Louis, Mo. ....	52,865	41,825	26.40	.....
Detroit, Mich. ....	16,745	16,110	3.94	.....	Saint Paul, Minn. ....	5,778	5,230	10.48	.....
Fall River, Mass. ....	16,753	17,085	.....	1.98	San Francisco, Cal. ....	37,475	23,442	31.76	.....
Hartford, Conn. ....	7,508	6,306	19.17	.....	Scranton, Pa. ....	8,177	3,549	§130.40	.....
Indianapolis, Ind. ....	10,268	10,000	2.68	.....	Syracuse, N. Y. ....	9,430	10,966	.....	16.29
Jersey City, N. J. ....	17,412	11,138	†56.33	.....	Toledo, Ohio. ....	6,211	6,738	.....	8.48
Kansas City, Mo. ....	7,393	2,548	†190.15	.....	Troy, N. Y. ....	11,955	22,434	.....	87.65
Lawrence, Mass. ....	14,840	16,719	.....	12.66	Washington, D. C. ....	13,272	7,146	†85.73	.....
Louisville, Ky. ....	16,599	17,448	.....	5.11	Wilmington, Del. ....	8,566	7,852	9.09	.....
Lowell, Mass. ....	21,819	20,030	8.88	.....	Worcester, Mass. ....	13,315	16,559	.....	24.36

\* Note the relation of Pittsburgh and Allegheny city, adverted to in the text.

† Note the explanation given in the text of the relations of Brooklyn and Jersey City to New York, and of Camden to Philadelphia, as "dormitory" cities.

‡ The large excess of the numbers reported in the Occupation tables over the numbers appearing in the tables of Manufactures is mainly due in these cases to the preponderance of mechanical trades, like those of carpenter, blacksmith, mason, plumber, painter, etc., which, as already explained, are only very partially returned on the schedules of productive industry, or, like those of tailor, dressmaker, or retail butcher, whose productions are expressly excluded from the tables of Manufactures. Thus, in Kansas City, of the 7,393 "persons engaged in manufacturing, mechanical, and mining industries", as by the tables of Occupations, 1,301 are carpenters and joiners, 465 painters and varnishers, 855 brick and stone masons, 894 tailors, dressmakers, and milliners, etc. On the other hand, in Camden, which has 7,000 "persons engaged in manufacturing, mechanical, and mining industries", but whose population is largely a "dormitory" one, laboring in Philadelphia, we have but 477 carpenters and joiners, 243 painters and varnishers, 167 brick and stone masons, and 747 tailors, dressmakers, and milliners.

§ The large excess of the numbers reported in the Occupation tables over the numbers appearing in the tables of Manufactures is due in this case to chiefly the mining population of Scranton (3,657), which is not represented at all in the second set of tables.

We now introduce a table which shows the distribution of the total number of persons resident in each of the fifty principal cities who report themselves as engaged in manufacturing, mechanical, or mining industries, among several classes, according to age, sex, and nativity.

## PERSONS ENGAGED IN MANUFACTURING, MECHANICAL, AND MINING INDUSTRIES, WITH AGE, SEX, AND NATIVITY.

	Cities.	Persons occupied.	AGE AND SEX.								NATIVITY.						
			All ages.		10 to 15.		16 to 50.		60 and over.		United States.	Ireland.	Germany.	Great Britain.	Scandinavia.	British America.	Other countries.
			Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.							
	Total .....	1,321,610	1,033,054	287,956	33,542	23,505	966,415	261,890	33,697	2,561	770,633	143,033	213,406	30,074	13,857	37,173	63,344
1	Albany, N. Y. ....	13,558	11,119	2,439	234	87	10,370	2,330	515	22	8,670	1,963	1,691	641	59	338	190
2	Allegheny, Pa. ....	11,563	9,938	1,625	311	144	9,354	1,464	273	17	7,675	739	2,228	564	45	27	385
3	Atlanta, Ga. ....	4,198	3,193	1,005	99	73	2,962	925	102	7	3,078	55	70	42	8	10	29
4	Baltimore, Md. ....	49,940	39,579	10,370	943	532	36,866	9,601	1,770	237	37,071	1,736	9,524	640	37	123	818
5	Boston, Mass. ....	53,000	40,694	13,206	356	272	38,752	12,805	1,589	120	32,080	8,858	2,075	3,208	510	5,338	1,222
6	Brooklyn, N. Y. ....	92,660	72,984	19,685	2,340	1,566	69,330	18,032	1,305	87	51,586	12,370	17,204	6,741	1,002	1,075	2,631
7	Buffalo, N. Y. ....	23,280	19,875	3,414	584	234	18,004	3,153	687	27	12,927	1,148	6,083	1,346	56	1,087	642
8	Cambridge, Mass. ....	9,073	7,340	1,724	147	50	6,841	1,648	361	20	5,195	1,428	268	593	90	1,304	195
9	Camden, N. J. ....	7,000	5,710	1,290	145	73	5,380	1,203	185	14	6,004	171	366	379	2	27	51
10	Charleston, S. C. ....	5,134	3,905	1,229	54	20	3,613	1,166	238	43	4,646	175	196	44	3	3	67
11	Chicago, Ill. ....	76,912	62,013	14,800	1,562	1,336	59,304	13,522	1,057	41	31,228	6,450	18,785	4,782	6,467	2,953	6,247
12	Cincinnati, Ohio ....	47,286	37,572	9,714	1,793	1,143	34,538	8,492	1,241	70	29,519	2,240	12,660	1,080	32	316	1,421
13	Cleveland, Ohio ....	26,230	22,642	3,588	573	292	21,404	3,282	575	14	11,677	2,081	6,504	2,768	93	998	2,100
14	Columbus, Ohio ....	7,241	6,192	1,049	163	17	5,808	1,022	221	10	5,262	314	1,101	354	14	50	146
15	Dayton, Ohio ....	6,954	6,049	905	203	71	5,612	826	234	8	5,088	183	1,378	140	.....	30	126
16	Denver, Colo. ....	6,422	5,954	468	28	8	5,840	457	77	3	4,056	391	620	618	148	288	292
17	Detroit, Mich. ....	16,745	13,905	2,840	353	252	13,090	2,574	462	14	7,208	827	4,223	1,369	32	2,085	911
18	Fall River, Mass. ....	16,753	9,850	6,903	1,023	911	8,559	5,976	268	16	5,740	2,805	110	4,399	30	3,595	68
19	Hartford, Conn. ....	7,508	5,748	1,760	127	115	5,372	1,633	249	12	5,124	1,118	499	467	37	158	85
20	Indianapolis, Ind. ....	10,268	8,795	1,473	294	42	8,326	1,423	265	8	7,008	485	1,436	356	22	72	229
21	Jersey City, N. J. ....	17,412	14,580	2,832	410	278	13,742	2,543	428	11	9,386	2,747	2,030	1,517	78	177	573
22	Kansas City, Mo. ....	7,393	6,617	776	108	26	6,422	746	87	4	5,452	509	601	363	141	107	140
23	Lawrence, Mass. ....	14,840	8,226	6,614	542	609	7,406	5,975	278	30	6,555	3,461	574	2,515	10	1,039	86
24	Louisville, Ky. ....	16,500	14,161	2,438	379	95	13,354	2,317	428	26	11,021	856	3,247	337	10	106	422
25	Lowell, Mass. ....	21,819	11,501	10,318	590	705	10,504	9,534	497	79	11,180	4,471	47	1,660	51	4,201	110
26	Lynn, Mass. ....	11,694	8,570	3,124	180	70	8,005	3,035	385	10	9,482	1,010	17	245	17	887	36
27	Milwaukee, Wis. ....	18,205	15,240	3,016	458	255	14,298	2,746	493	15	7,895	504	7,528	608	281	184	1,205
28	Minneapolis, Minn. ....	8,921	7,823	1,098	117	45	7,543	1,050	163	3	4,982	347	784	334	1,343	910	212
29	Nashville, Tenn. ....	4,617	3,782	835	102	47	3,522	778	158	10	4,067	162	173	106	10	13	77
30	Newark, N. J. ....	20,983	23,770	6,113	940	683	21,866	5,381	1,035	40	18,113	2,038	6,097	1,813	34	95	893
31	New Haven, Conn. ....	11,020	9,162	2,467	200	192	8,580	2,254	382	21	8,014	1,781	857	566	28	199	184
32	New Orleans, La. ....	19,168	15,788	3,320	324	108	14,433	3,093	1,031	110	13,277	1,004	2,664	365	42	79	1,617
33	New York, N. Y. ....	213,003	157,419	55,584	4,675	4,630	148,322	50,408	4,422	457	99,287	32,253	48,908	9,018	1,026	1,704	19,907
34	Paterson, N. J. ....	15,919	11,310	4,609	1,030	1,173	9,937	3,415	343	21	9,231	1,791	907	2,041	38	79	1,232
35	Philadelphia, Pa. ....	171,526	128,709	42,817	5,605	4,107	117,504	38,193	5,600	517	110,068	18,693	18,340	11,597	240	517	3,161
36	Pittsburgh, Pa. ....	21,204	19,453	1,751	784	76	18,201	1,050	468	16	12,709	2,492	3,392	1,931	27	123	470
37	Providence, R. I. ....	23,774	17,563	6,211	756	706	16,128	5,461	679	44	15,934	3,711	392	2,698	79	668	262
38	Reading, Pa. ....	7,850	6,493	1,417	402	174	5,798	1,226	293	17	7,003	102	564	120	3	6	52
39	Richmond, Va. ....	8,448	6,993	1,455	104	43	6,624	1,387	265	25	7,788	155	262	128	5	18	92
40	Rochester, N. Y. ....	17,910	12,908	4,912	488	564	11,915	4,362	595	46	11,222	1,041	3,012	932	22	1,039	642
41	Saint Louis, Mo. ....	52,865	45,776	7,089	1,454	622	43,218	6,303	1,104	74	29,414	4,007	14,039	1,974	208	544	2,084
42	Saint Paul, Minn. ....	5,778	4,838	940	50	28	4,706	908	82	4	2,836	390	1,138	222	445	370	377
43	San Francisco, Cal. ....	37,475	32,253	5,222	393	155	31,120	5,025	740	42	14,075	4,712	4,408	2,893	520	880	9,877
44	Scranton, Pa. ....	8,177	7,374	803	965	86	6,209	712	200	5	8,044	1,491	768	1,810	12	33	119
45	Syracuse, N. Y. ....	9,430	7,164	2,266	283	255	6,504	1,998	377	13	6,273	698	1,501	404	3	345	236
46	Toledo, Ohio ....	6,211	5,217	994	111	58	4,979	926	127	10	3,587	339	1,424	226	16	304	315
47	Troy, N. Y. ....	11,955	8,538	3,417	287	240	7,960	3,148	291	29	7,595	2,276	479	837	53	573	142
48	Washington, D. C. ....	13,272	10,909	2,363	111	22	10,354	2,308	444	33	11,145	646	950	301	18	37	175
49	Wilmington, Del. ....	8,566	7,411	1,155	252	120	6,842	1,020	317	15	7,293	596	272	334	16	19	66
50	Worcester, Mass. ....	13,315	10,901	2,414	182	111	10,835	2,295	384	8	8,577	2,304	115	620	377	1,236	86

## REMARKS ON THE STATISTICS OF MANUFACTURES.

## WOMEN AND CHILDREN IN MANUFACTURING INDUSTRY.

We have already indicated the cause which makes the returns on the population or family schedule relating to the occupations of women and young children, especially those employed in factory labor, inadequate to the facts.

If we may assume this cause to have been of constant force from 1870 to 1880, comparison of the returns at the two several dates will show that the proportion of women and of young children engaged in manufacturing and mechanical industries has increased during the decade. The same tendency is shown, and that without any occasion for qualification as to the authority of the statement involved, by a comparison directly between the manufacturing statistics of 1880 and those of 1870.

	1870.	1880.	Per cent. of gain.
Males above 15 years .....	1, 015, 598	2, 019, 035	24. 97
Females above 15 years .....	323, 770	531, 639	64. 20
Children and youth .....	114, 628	181, 921	58. 71

The tendency to the introduction of women and young children into mechanical labor varies, of course, very widely as between different branches of productive industry. The following tables show the strong contrast between different industries in this respect:

## CERTAIN INDUSTRIES EMPLOYING A LARGE PROPORTION OF WOMEN AND YOUNG CHILDREN.

Industry.	Total persons em- ployed.	Per cent. of males over 15 years.	Per cent. of females over 15 years.	Per cent. of children and youth.
Book-binding and blank-book making.....	10, 612	48. 31	45. 53	6. 16
Carpet weaving.....	20, 371	49. 60	42. 07	8. 33
Men's clothing .....	160, 813	48. 04	50. 37	1. 59
Women's clothing .....	25, 192	10. 30	88. 33	1. 37
Cotton goods .....	185, 472	34. 57	49. 14	10. 29
Men's furnishing goods.....	11, 174	11. 40	85. 60	3. 00
Hosiery and knit goods.....	28, 885	26. 02	61. 30	12. 68
Millinery and lace goods.....	6, 555	14. 81	80. 00	5. 13
Shirts .....	25, 687	11. 20	86. 37	2. 43
Silk and silk goods .....	31, 337	29. 02	52. 32	17. 76
Straw goods .....	10, 948	29. 94	68. 52	1. 54
Tobacco, chewing, smoking, and snuff* .....	32, 730	45. 44	32. 90	21. 66
Umbrellas and canes.....	3, 008	41. 69	51. 52	6. 79
Woolen goods .....	86, 504	54. 31	33. 95	11. 74
Worsted goods .....	18, 803	34. 22	50. 38	15. 40

\* Oddly enough, women are not employed in anything like an equal proportion in the manufacture of cigars. The respective numbers are: Males above 15 years, 40, 099; females above 15 years, 9, 108; children, 4, 090.

## CERTAIN INDUSTRIES EMPLOYING A SMALL PROPORTION OF WOMEN AND CHILDREN.

Industry.	Total persons em- ployed.	Per cent. of males over 15 years.	Per cent. of females over 15 years.	Per cent. of children and youth.
Agricultural implements .....	39, 580	96. 80	0. 18	3. 02
Bread and other bakery products.....	22, 488	84. 15	9. 83	6. 02
Brick and tile.....	66, 355	88. 97	0. 40	10. 63
Carriages and wagons .....	45, 394	96. 11	0. 60	3. 29
Drugs and chemicals .....	9, 545	85. 32	11. 92	2. 76
Dyeing and finishing textiles .....	16, 608	76. 58	12. 21	11. 21
Flour- and grist-mills .....	58, 407	99. 71	0. 07	0. 22
Furniture.....	48, 729	92. 78	1. 88	5. 39
Glass .....	24, 177	78. 53	3. 07	23. 40
Jewelry .....	12, 697	79. 15	15. 74	5. 11
Distilled liquors .....	6, 502	99. 23	0. 15	0. 62
Malt liquors .....	26, 220	99. 16	0. 11	0. 73
Musical instruments .....	11, 850	96. 26	1. 54	2. 20
Printing and publishing .....	58, 478	78. 46	11. 56	9. 98
Sewing-machines and attachments.....	9, 553	90. 36	2. 60	7. 04
Tinware, copperware, and sheet-iron ware .....	26, 248	91. 07	3. 25	5. 68

## REMARKS ON THE STATISTICS OF MANUFACTURES.

xxxv

This widely different tendency of the various manufacturing industries as to calling into service women and young children naturally results in producing very different proportions in the same respects between the several states and the several cities, according as those industries which employ many women and children or those which employ few prevail.

The following table shows, for each state which produces to the value of \$20,000,000, the proportions in which the several classes contribute to the aggregate body of persons employed in manufactures:

State.	Total persons employed.*	Per cent. of males over 16 years.	Per cent. of females over 16 years.	Per cent. of children and youth.	State.	Total persons employed.*	Per cent. of males over 16 years.	Per cent. of females over 16 years.	Per cent. of children and youth.
California.....	43,693	87.68	8.98	3.84	Missouri.....	63,995	84.60	8.56	6.75
Connecticut.....	112,915	66.97	25.55	7.48	New Hampshire.....	48,831	60.12	33.14	6.74
Delaware.....	12,638	81.11	11.28	7.61	New Jersey.....	126,038	68.86	21.60	9.34
Georgia.....	24,875	76.13	14.55	9.32	New York.....	531,533	68.58	25.86	5.56
Illinois.....	144,727	83.30	10.53	6.17	North Carolina.....	18,109	70.78	16.23	12.99
Indiana.....	69,508	80.80	5.20	5.50	Ohio.....	183,000	82.90	10.11	6.09
Iowa.....	28,372	89.46	5.04	5.50	Pennsylvania.....	387,072	73.46	18.87	7.67
Kansas.....	12,062	92.35	3.25	4.40	Rhode Island.....	62,878	58.94	29.06	12.00
Kentucky.....	37,391	82.77	9.44	7.70	Tennessee.....	22,445	87.21	5.33	7.48
Louisiana.....	12,167	83.60	10.97	5.49	Texas.....	12,150	95.77	0.06	3.27
Maine.....	52,954	66.01	26.02	7.07	Vermont.....	17,540	82.31	12.05	4.74
Maryland.....	74,045	62.31	28.95	8.74	Virginia.....	40,184	71.02	15.20	13.09
Massachusetts.....	352,255	64.06	30.09	4.95	West Virginia.....	14,311	90.14	2.42	7.44
Michigan.....	77,591	88.21	6.17	5.62	Wisconsin.....	57,109	84.50	10.93	4.57
Minnesota.....	21,247	89.13	7.70	3.17					

\* As by the tables of Manufactures.

The tendency to variation in the respects under consideration is shown even more strikingly in the case of single cities. Thus, in giving the statistics of Pennsylvania as a whole, we merge Pittsburgh, a city which has a very low proportion of women and children employed in manufactures, with Philadelphia, a city which has a high proportion.

We therefore give in the table following the proportions in which the several classes, according to age and sex, contribute to the aggregate number of persons employed in manufactures in the fifty principal cities.

No.	Fifty cities.	Total persons employed.*	Per cent. of males over 16 years.	Per cent. of females over 16 years.	Per cent. of children and youth.	No.	Fifty cities.	Total persons employed.*	Per cent. of males over 16 years.	Per cent. of females over 16 years.	Per cent. of children and youth.
1	New York, N. Y.....	227,352	64.30	31.58	4.12	26	Troy, N. Y.....	22,434	46.08	49.54	4.38
2	Philadelphia, Pa.....	185,527	60.05	30.02	8.43	27	Rochester, N. Y.....	14,607	63.61	27.74	8.65
3	Chicago, Ill.....	79,414	78.02	15.34	6.04	28	Lawrence, Mass.....	10,719	46.77	47.30	5.03
4	Brooklyn, N. Y.....	47,587	77.97	14.75	7.28	29	New Haven, Conn.....	15,156	65.97	31.54	2.49
5	Boston, Mass.....	59,213	67.23	30.65	2.12	30	Albany, N. Y.....	11,785	83.40	32.97	3.63
6	Saint Louis, Mo.....	41,825	81.24	11.88	7.88	31	Richmond, Va.....	14,047	66.62	20.45	13.99
7	Cincinnati, Ohio.....	54,517	71.52	19.23	9.25	32	Fall River, Mass.....	17,085	48.18	30.35	12.47
8	Baltimore, Md.....	56,338	60.50	32.19	7.31	33	New Orleans, La.....	9,564	80.66	13.53	5.81
9	San Francisco, Cal.....	28,442	83.19	12.02	4.19	34	Syracuse, N. Y.....	10,906	68.51	26.18	5.81
10	Pittsburgh, Pa.....	36,930	86.08	4.55	8.77	35	Peoria, Ill.....	4,067	88.98	7.70	3.32
11	Newark, N. J.....	30,046	73.72	17.46	8.82	36	Manchester, N. H.....	10,838	42.74	53.03	4.28
12	Jersey City, N. J.....	11,138	71.40	21.78	6.73	37	Allegheny, Pa.....	6,471	85.75	9.49	4.70
13	Cleveland, Ohio.....	21,724	82.94	10.52	6.54	38	Holyoke, Mass.....	9,011	49.10	42.85	7.06
14	Milwaukee, Wis.....	20,886	76.68	18.78	4.54	39	Reading, Pa.....	6,605	80.85	10.81	8.34
15	Buffalo, N. Y.....	18,021	83.42	9.06	6.62	40	Wilmington, Del.....	7,852	87.51	5.84	6.05
16	Providence, R. I.....	22,801	70.11	22.39	7.50	41	Springfield, Mass.....	7,300	66.22	29.05	4.03
17	Louisville, Ky.....	17,448	77.28	16.21	6.53	42	Trenton, N. J.....	8,002	75.16	12.18	12.68
18	Lowell, Mass.....	20,030	46.00	47.42	6.58	43	Dayton, O.....	6,025	84.17	8.51	7.32
19	Detroit, Mich.....	16,110	77.45	15.08	7.47	44	Washington, D. C.....	7,146	76.01	19.44	3.65
20	Minneapolis, Minn.....	5,344	87.99	8.55	3.46	45	Hartford, Conn.....	6,300	72.59	21.79	5.62
21	Indianapolis, Ind.....	10,000	86.71	8.30	4.99	46	Toledo, Ohio.....	6,738	74.62	15.14	10.24
22	Worcester, Mass.....	16,550	82.64	14.08	2.38	47	Bridgeport, Conn.....	7,508	72.93	24.07	8.00
23	Lynn, Mass.....	12,420	71.61	28.09	0.30	48	Saint Paul, Minn.....	5,230	75.14	20.88	8.98
24	Cambridge, Mass.....	7,543	82.26	15.54	2.20	49	Salem, Mass.....	4,181	62.95	31.31	5.74
25	Paterson, N. J.....	19,799	51.87	33.21	14.92	50	New Bedford, Mass.....	5,812	67.30	25.46	6.18

\* As by the tables of Manufactures.

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## NATIONALITY IN MANUFACTURING INDUSTRY.

The comparative aptitude of our foreign population as a whole for the several grand classes of occupations may be seen by looking at the following table, derived from the statistics of Occupations:

Grand class of occupations.	Total.	Per cent. of persons engaged who are natives of the United States.	Per cent. of persons engaged who are natives of all foreign countries.
All occupations.....	100	78.91	20.09
Agriculture .....	100	89.40	10.60
Professional and personal services.....	100	75.52	24.48
Trade and transportation .....	100	74.67	25.33
Manufacturing, mechanical, and mining.....	100	68.05	31.95

From this it appears that persons of foreign birth constitute a larger part of the total number of persons employed in manufacturing, mechanical, and mining pursuits than is the case in any other of the grand classes of gainful occupations.

As between the different industries embraced in this great class, the foreign element shows very different aptitudes.

The following table shows for each recognized occupation within this class, which employs as many as 20,000 persons, first, the proportion in which the total number of operatives engaged is made up of persons of native and persons of foreign birth, and, secondly, the proportions in which the total number of persons of foreign birth engaged is made up from the different foreign countries on the list:

Industry.	OPERATIVES.			FOREIGN PER CENT. OF EACH CLASS.						
	Total.	Per cent. of native.	Per cent. of foreign.	Total.	Ireland.	Germany.	Great Britain.	Scandinavia.	British America.	Other countries.
Apprentices to trades.....	100	90.76	9.24	100	14.55	32.09	18.03	4.00	13.45	17.88
Bakers.....	100	43.84	56.16	100	11.53	65.68	7.85	1.23	4.18	9.53
Blacksmiths.....	100	72.71	27.29	100	27.04	32.10	15.93	4.78	12.33	7.22
Boot and shoe makers.....	100	64.24	35.76	100	25.13	40.09	9.66	3.62	10.92	10.58
Brick and tile makers.....	100	68.17	31.83	100	20.28	27.21	7.74	4.04	30.04	10.69
Butchers.....	100	61.66	38.34	100	11.92	62.15	10.67	0.99	3.84	10.43
Cabinet makers.....	100	58.23	41.77	100	5.35	63.00	6.01	5.99	0.71	12.04
Carpenters and joiners.....	100	77.04	22.96	100	16.05	35.46	15.41	6.20	17.55	8.73
Carriage and wagon makers.....	100	75.45	24.55	100	11.36	50.57	11.58	4.44	12.09	9.06
Cigar makers.....	100	55.43	44.57	100	3.38	47.48	5.01	0.82	2.08	40.63
Coopers.....	100	67.09	32.91	100	20.25	54.79	5.03	2.34	8.18	9.41
Cotton-mill operatives.....	100	55.37	44.63	100	26.04	2.04	21.43	0.37	48.03	1.49
Employés in manufacturing establishments (not specified).....	100	71.56	28.44	100	26.97	33.65	16.86	2.00	8.85	11.67
Engineers and firemen.....	100	72.82	27.18	100	32.98	19.94	30.27	2.41	9.15	5.95
Fishermen and oystermen.....	100	73.33	26.67	100	9.39	6.94	5.27	8.28	25.53	44.50
Gold and silver workers and jewelers.....	100	72.91	27.09	100	12.01	42.27	20.17	3.24	5.73	16.58
Harness and saddle makers.....	100	74.50	25.50	100	19.29	43.11	11.08	2.38	11.91	12.23
Iron and steel workers and shop operatives.....	100	63.67	36.33	100	40.21	22.37	24.45	2.51	5.33	5.13
Leather carriers, dressers, finishers, and tanners.....	100	54.26	45.74	100	44.16	30.13	6.92	3.19	8.53	7.06
Lumbermen and raftsmen.....	100	65.82	34.18	100	8.42	9.86	7.13	12.56	53.78	8.75
Machinists.....	100	69.88	30.12	100	20.70	26.94	32.26	3.20	9.04	7.87
Manufacturers.....	100	73.73	26.27	100	12.51	43.88	23.20	1.32	6.07	13.03
Marble and stone cutters.....	100	55.41	44.59	100	42.15	19.76	21.91	1.75	7.43	7.01
Masons, brick and stone.....	100	64.63	35.37	100	34.79	32.71	15.83	3.65	6.15	6.87
Mill and factory operatives.....	100	74.21	25.79	100	26.74	21.20	23.52	3.05	16.11	9.38
Millers.....	100	84.63	15.37	100	10.94	41.07	23.72	4.41	10.93	8.93
Milliners, dressmakers, and seamstresses.....	100	83.95	16.05	100	35.36	20.30	15.51	3.62	15.39	9.82
Miners.....	100	46.11	53.89	100	20.17	7.94	37.58	3.82	4.50	25.99
Painters and varnishers.....	100	76.05	23.95	100	20.06	33.33	30.57	5.71	10.19	10.14
Paper-mill operatives.....	100	68.80	31.20	100	52.75	9.88	5.95	1.13	15.19	5.10
Plasterers.....	100	72.44	27.56	100	43.17	20.05	20.08	2.68	8.00	6.02
Printers, lithographers, and stereotypers.....	100	83.00	17.00	100	22.96	27.00	25.39	2.99	13.41	8.25
Saw- and planing-mill operatives.....	100	73.29	26.71	100	8.33	24.13	5.43	14.38	33.69	14.06
Tailors and tailoresses.....	100	46.48	53.52	100	14.38	52.65	7.01	5.67	3.23	17.06
Tinners and tinware makers.....	100	75.86	24.14	100	17.73	44.59	15.42	3.03	8.99	10.24
Tobacco-factory operatives.....	100	91.81	8.19	100	22.63	37.33	7.94	1.69	4.62	25.79
Woolen-mill operatives.....	100	60.72	39.28	100	36.85	10.88	30.36	1.39	17.63	2.89

\* Not including persons employed in print works.



Pages might be written of appropriate comment upon the foregoing table. Thus, bearing in mind that the number of Germans engaged in all branches of productive industry is to the number of Irish as 13 to 10, we find members of the two nationalities engaged almost in that proportion as blacksmiths, while as butchers there are more than 5 Germans to 1 Irishman; as cabinet makers, 12 to 1; as cigar makers 14 to 1. On the other hand there are 10 Irish in cotton-mills to 1 German.

Although British Americans are only about one-half the Irish engaged in manufacturing and mechanical pursuits, and are considerably less than one-half the Germans, there are more of British Americans in saw- and planing-mills and in cotton-mills than of Germans and Irish combined, while British Americans as lumbermen and raftsmen exceed the men of all other nationalities from whatever quarter of the globe.

These various industrial aptitudes of the men of the several nationalities appearing in our tables naturally cause those nationalities to be represented in very different proportions in the several cities, states, and sections.

The following table gives the proportions in which the industrial classes of each state producing to the value of \$20,000,000 (manufactures) are divided (1) between persons of native and persons of foreign birth, and (2) the proportions in which the aggregate foreign-born class is divided among the several nationalities recognized in the tables of Occupations:

States.	Population.	ALL PERSONS ENGAGED IN MANUFACTURING, MECHANICAL, AND MINING INDUSTRIES.			PERSONS OF FOREIGN BIRTH ENGAGED IN MANUFACTURING, MECHANICAL, AND MINING INDUSTRIES.						
		Total per cent.	Per cent. native.	Per cent. foreign.	Total per cent.	Per cent. born in—					
						Ireland.	Germany.	Great Britain.	Scandinavia.	British America.	Other countries.
The United States...	50,155,783	100	68.05	31.95	100	23.18	30.03	18.42	3.04	12.50	12.17
California.....	804,094	100	40.65	59.35	100	13.77	18.30	12.03	2.22	7.41	50.07
Connecticut.....	622,700	100	67.59	32.41	100	42.36	13.65	10.85	2.05	18.71	3.48
Delaware.....	146,608	100	87.13	12.87	100	47.12	18.78	26.07	1.04	1.87	5.23
Georgia.....	1,542,180	100	96.52	3.48	100	31.00	20.00	21.72	2.47	3.03	11.88
Illinois.....	2,077,871	100	56.07	43.93	100	13.80	40.85	17.35	11.76	5.03	10.01
Indiana.....	1,078,301	100	81.70	18.30	100	12.00	57.70	10.37	1.04	3.25	8.63
Iowa.....	1,024,615	100	71.75	28.25	100	10.40	41.34	19.37	11.32	7.57	10.04
Kansas.....	998,096	100	78.04	21.96	100	12.80	30.10	20.77	10.34	0.37	10.80
Kentucky.....	1,648,600	100	81.72	18.28	100	18.72	50.32	12.38	0.23	2.11	7.24
Louisiana.....	939,946	100	74.40	25.60	100	15.83	40.74	0.05	0.85	1.83	33.78
Maine.....	648,086	100	82.19	17.81	100	15.58	1.50	18.57	1.23	00.48	2.55
Maryland.....	934,943	100	79.38	20.62	100	15.27	65.05	12.44	0.28	1.31	5.05
Massachusetts.....	1,783,085	100	64.35	35.65	100	39.00	4.05	18.07	1.48	32.73	2.83
Michigan.....	1,036,937	100	66.57	33.43	100	9.10	23.85	10.88	5.71	31.02	0.75
Minnesota.....	780,773	100	52.44	47.56	100	7.18	28.80	8.30	28.30	17.03	8.03
Missouri.....	2,108,380	100	68.06	31.94	100	10.77	55.25	12.00	1.00	3.71	10.01
Nebraska.....	452,402	100	69.64	30.36	100	10.01	35.47	17.35	11.71	0.87	15.50
New Hampshire.....	346,901	100	72.71	27.29	100	20.72	1.78	10.06	0.42	05.22	0.00
New Jersey.....	1,131,116	100	68.32	31.68	100	23.57	30.04	20.70	1.00	1.70	8.87
New York.....	5,082,871	100	61.23	38.77	100	23.87	38.14	13.03	1.41	0.48	11.17
North Carolina.....	1,399,750	100	98.02	1.98	100	14.03	14.74	22.54	1.50	3.32	43.70
Ohio.....	3,188,002	100	71.03	28.97	100	11.60	50.82	22.20	0.54	4.48	10.18
Pennsylvania.....	4,282,891	100	73.00	26.40	100	31.02	30.55	20.14	1.01	1.83	5.85
Rhode Island.....	270,581	100	60.88	39.12	100	35.10	2.05	27.28	1.00	01.83	1.06
Tennessee.....	1,542,359	100	92.97	7.03	100	25.32	28.75	20.26	3.15	3.00	13.53
Texas.....	1,591,749	100	74.01	25.99	100	12.00	36.59	18.52	2.47	0.04	31.42
Vermont.....	332,280	100	75.30	24.70	100	23.66	1.74	13.00	0.30	58.74	1.51
Virginia.....	1,512,565	100	97.04	2.96	100	23.45	33.78	27.09	1.07	3.05	11.50
West Virginia.....	618,457	100	80.06	19.94	100	25.30	42.52	25.70	0.20	2.22	3.88
Wisconsin.....	1,315,497	100	51.88	48.12	100	5.00	40.38	9.07	11.43	10.54	12.89

The following table gives the proportions in which the industrial classes of the fifty principal cities of the United States are divided, (1) between persons of native and persons of foreign birth, (2) the proportions in which the aggregate foreign-born class is divided among the several nationalities recognized in the table of occupations:

No.	Cities.	ALL PERSONS ENGAGED IN MANUFACTURING, MECHANICAL, AND MINING INDUSTRIES.			PERSONS OF FOREIGN BIRTH ENGAGED IN MANUFACTURING, MECHANICAL, AND MINING INDUSTRIES.						
		Total per cent.	Per cent. native.	Per cent. foreign.	Total per cent.	Per cent. born in—					
						Ireland.	Germany.	Great Britain.	Scandinavia.	British America.	Other countries.
	Total .....	100	58.31	41.69	100	25.96	38.75	14.53	2.51	6.75	11.50
1	Albany, N. Y. ....	100	64.90	35.01	100	40.21	34.04	13.13	1.21	6.92	3.80
2	Allegheny, Pa. ....	100	65.51	34.49	100	18.53	55.87	14.14	1.13	0.08	9.65
3	Atlanta, Ga. ....	100	94.76	5.24	100	25.00	34.55	19.09	3.04	4.54	13.18
4	Baltimore, Md. ....	100	74.22	25.78	100	13.48	78.06	4.97	0.29	0.95	6.35
5	Boston, Mass. ....	100	60.63	39.37	100	41.74	9.78	15.12	2.45	25.15	5.76
6	Brooklyn, N. Y. ....	100	55.67	44.33	100	30.11	42.02	16.41	2.44	2.62	6.40
7	Buffalo, N. Y. ....	100	55.51	44.49	100	11.08	58.70	12.09	0.54	10.49	6.20
8	Cambridge, Mass. ....	100	57.28	42.72	100	36.82	6.91	15.29	2.32	33.03	5.03
9	Camden, N. J. ....	100	85.77	14.23	100	17.17	36.75	38.05	0.20	2.71	5.12
10	Charleston, S. C. ....	100	90.49	9.51	100	35.86	46.16	9.02	0.62	0.61	13.73
11	Chicago, Ill. ....	100	40.60	59.40	100	14.12	41.12	10.47	14.16	6.46	13.67
12	Cincinnati, Ohio ....	100	62.43	37.57	100	12.66	71.25	6.13	0.18	1.78	8.00
13	Cleveland, Ohio ....	100	44.52	55.48	100	14.30	44.60	19.02	0.64	6.86	14.49
14	Columbus, Ohio. ....	100	72.67	27.33	100	15.87	55.63	17.89	0.71	2.52	7.38
15	Dayton, Ohio. ....	100	73.17	26.83	100	0.81	78.85	7.50	.....	2.09	6.75
16	Denver, Colo. ....	100	63.16	36.84	100	16.53	26.58	26.12	6.26	12.17	12.34
17	Detroit, Mich. ....	100	43.58	56.42	100	8.75	44.70	14.49	0.34	22.07	9.65
18	Fall River, Mass. ....	100	34.26	65.74	100	25.47	1.05	39.95	0.27	32.64	0.62
19	Hartford, Conn. ....	100	68.25	31.75	100	46.90	20.93	20.43	1.55	6.63	3.56
20	Indianapolis, Ind. ....	100	74.68	25.32	100	18.65	55.23	13.69	0.85	2.77	8.81
21	Jersey City, N. J. ....	100	53.91	46.09	100	34.23	36.62	18.90	0.91	2.20	7.14
22	Kansas City, Mo. ....	100	73.75	26.25	100	26.22	30.97	18.19	7.26	10.15	7.21
23	Lawrence, Mass. ....	100	44.17	55.83	100	41.77	6.93	30.36	0.12	19.78	1.04
24	Louisville, Ky. ....	100	70.01	29.99	100	17.19	65.23	6.77	0.20	2.13	8.48
25	Lowell, Mass. ....	100	51.24	48.76	100	42.03	0.44	15.69	0.48	40.33	1.03
26	Lynn, Mass. ....	100	81.08	18.92	100	45.66	0.77	11.07	0.77	40.10	1.63
27	Milwaukee, Wis. ....	100	43.22	56.78	100	4.86	72.60	5.86	2.71	1.77	12.20
28	Minneapolis, Minn. ....	100	55.86	44.14	100	8.81	19.90	8.48	84.10	23.33	5.38
29	Nashville, Tenn. ....	100	88.00	11.91	100	29.46	31.46	19.27	3.45	2.36	14.00
30	Newark, N. J. ....	100	60.41	39.59	100	24.75	51.37	15.27	0.29	0.80	7.52
31	New Haven, Conn. ....	100	68.91	31.09	100	49.27	23.71	15.66	0.77	5.50	5.09
32	New Orleans, La. ....	100	69.48	30.52	100	18.26	45.69	6.26	0.72	1.85	27.73
33	New York, N. Y. ....	100	46.01	53.99	100	28.36	43.01	8.72	0.90	1.50	17.51
34	Paterson, N. J. ....	100	57.98	42.02	100	26.78	13.56	39.49	0.57	1.18	13.42
35	Philadelphia, Pa. ....	100	69.42	30.58	100	35.58	34.96	22.11	0.46	0.98	5.91
36	Pittsburgh, Pa. ....	100	60.22	39.78	100	20.55	40.21	22.89	0.32	1.46	5.57
37	Providence, R. I. ....	100	67.02	32.98	100	47.34	5.00	34.41	1.01	8.52	8.72
38	Reading, Pa. ....	100	80.21	19.79	100	12.04	66.59	14.17	0.35	0.71	6.14
39	Richmond, Va. ....	100	92.19	7.81	100	23.48	39.70	19.39	0.76	2.73	13.94
40	Rochester, N. Y. ....	100	62.66	37.34	100	15.50	45.04	13.93	0.33	15.54	9.60
41	Saint Louis, Mo. ....	100	55.64	44.36	100	17.09	59.87	8.42	0.86	2.32	11.44
42	Saint Paul, Minn. ....	100	49.08	50.92	100	13.26	38.68	7.55	15.12	12.58	12.81
43	San Francisco, Cal. ....	100	39.16	60.84	100	20.67	19.31	10.49	2.32	3.89	43.32
44	Scranton, Pa. ....	100	48.23	51.77	100	35.23	18.14	42.76	0.28	0.78	2.81
45	Syracuse, N. Y. ....	100	66.52	33.48	100	21.16	47.54	12.80	0.09	10.03	7.43
46	Toledo, Ohio. ....	100	57.75	42.25	100	12.92	54.27	8.61	0.61	11.59	12.90
47	Troy, N. Y. ....	100	63.53	36.47	100	52.20	10.89	19.20	1.21	13.14	3.26
48	Washington, D. C. ....	100	83.97	16.03	100	30.37	44.66	14.15	0.85	1.74	8.23
49	Wilmington, Del. ....	100	84.79	15.21	100	45.74	20.87	25.63	1.23	1.46	5.07
50	Worcester, Mass. ....	100	64.42	35.58	100	48.63	2.43	13.08	7.96	26.09	1.81

## THE STATISTICS OF CAPITAL INVESTED IN MANUFACTURES.

The statistics of capital invested in manufactures, as obtained by a popular canvass, in which the statements of individual proprietors are necessarily accepted, and, indeed, are by the law intended to be accepted, are always likely to be partial and defective, far beyond the limit of error which pertains to other classes of statistics derived from the manufacturing schedule. The liability to error in this respect inheres in the very nature of the subject, and is probably ineradicable.

When the committee of Congress was, in 1869, engaged in preparing a bill providing for the taking of the Ninth Census, the present writer addressed to that committee a recommendation that the inquiry regarding the amount of capital invested be omitted from the manufacturing schedule; and that bill having failed to become law, and the census of 1870 having been taken under the act of May 23, 1850, the same person, in commenting upon the industrial statistics of that enumeration (see volume on Industry and Wealth, Ninth Census, pages 381, 382), used the following language:

The census returns of capital invested in manufactures are entirely untrustworthy and delusive. The inquiry is one of which it is not too much to say that it ought never to be embraced in the schedules of the census, not merely for the reason that the results are, and must remain, wholly worthless, the inquiry occupying upon the schedules the place of some technical question which might be made to yield information of great value, but also because the inquiry in respect to capital creates more prejudice and arouses more opposition to the progress of the enumeration than all the other inquiries of the manufacturing schedule united. It is, in fact, the one question which manufacturers resent as needlessly obtrusive, while at the same time it is perhaps the one question in respect to their business which manufacturers, certainly the majority of them, could not answer to their own satisfaction, even if disposed. No man in business knows what he is worth—far less can say what portion of his estate is to be treated as capital. With respect, indeed, to corporations having a determinate capital stock, the difficulty of making a correct return in this particular becomes very much reduced; yet, even here, the difference caused by returning such capital stock at its nominal value on the one hand, or at its actual selling price on the other, whether above or below par, might easily make a difference of 50 or 75 per cent. in the aggregate amount of capital stated for any branch of industry.

Where, however, business is carried on outside of incorporated companies, the difficulty of obtaining even an approximate return of capital, resulting from the nature of the inquiry itself, irrespective of the reluctance of manufacturers, becomes such as to render success hopeless. So numerous are the constructions, possible and even reasonable, in respect to what constitutes manufacturing capital, that anything like harmony or consistency of treatment is not to be expected of a large body of officials pursuing their work independently of each other. The Superintendent is free to confess that he would be puzzled to furnish a definition (fit for practical use by enumerators) of manufacturing capital, or, even in a single case, with complete access to the books of a manufacturing establishment conducted by two or more partners, and with the frankest exhibit of the assets, both of the firm and of the individuals thereof, to make up a statement of the capital of the concern in respect to which he would feel any assurance. When to such difficulties in the nature of the subject is added the reluctance of manufacturers to answer an inquiry of this character, it may fairly be assumed, in advance of any enumerations, that the results will be of the slightest possible value.

It is greatly to be regretted that the census should be incumbered by an inquiry yielding so little, yet provoking so much opposition to the progress of the general work.

A host of illustrations might be offered showing the hopelessness of securing anything like complete and accurate returns of capital invested. Take a single class of difficulties: Here are two shoe factories in the same town, each employing two hundred workmen. In one case the manufacturer owns the building in which his operations are carried on, and reports his capital at \$75,000, being the value of his stock and machinery plus the value of the building; the other reports his capital at \$25,000, being the value of stock and machinery only. The latter would not, and could not rightfully, report the value of the building as a part of his capital, for it does not belong to him. Yet that building is devoted to manufacturing uses, and any summary of the manufacturing capital of the country which omits consideration of it is, in so far, defective.

Let it not be thought that this element is a slight one. A very large part of the manufacturing establishments of a great city like New York or Philadelphia are located in leased buildings. In a single block may be found twenty clothing manufacturers, corset manufacturers, hat and cap makers, printers and publishers, engravers and die-sinkers, not one of these concerns having a dollar's interest in the building, of which the upper three or five stories may be wholly devoted to manufacturing uses.

In the same way the value of the utilized water-powers of the United States must amount to a vast sum; yet a very large part of this will not be, indeed cannot properly be, included in the returns of manufacturers, being the property of water-power companies or of the individual owners of adjacent lands.

Take still another large class of cases. A manufacturer has habitually \$50,000 worth of his paper discounted by one, two, or three banks with which he keeps accounts, or by bill brokers. He cannot return this as a part of his manufacturing capital. It is not his manufacturing capital, for the best reason in the world, viz, that it is not his property at all; it is the capital of the banks or of his individual creditors. That particular portion of wealth is not even capital invested permanently in manufactures. The notes might conceivably be paid off in the course of three months, and the same parties might thereafter loan their capital, not to that manufacturer, not to any manufacturer, but to some person engaged in trade or transportation; yet many hundreds of millions of dollars of borrowed capital are habitually employed in prosecuting the manufacturing enterprises of the country.

A variety of additional illustrations might be offered, were it needed, to show that, altogether in addition to the strong inclination of manufacturers to misrepresent the facts regarding the amount of their invested property, there is found, in the very nature of industrial operations, a liability to the serious understatement of the capital invested. No corresponding difficulty is experienced in obtaining a fair and just statement of the annual value of the product, or of the kind and quantities thereof.

## ATTACK UPON THE INDUSTRIAL CENSUS OF PHILADELPHIA.

Ever since the first completion of the canvass the industrial census of Philadelphia has been made the object of the most virulent attacks by a local statistician. Not content with alleging gross carelessness and negligence on the part of the resident officers concerned in the enumeration, this person at last proceeded to the astonishing length of charging that the Superintendent of Census at Washington had deliberately suppressed the returns relating to several hundreds of establishments, for the purpose of disparaging Philadelphia as a manufacturing city in comparison with New York.

It is not necessary to comment upon an attack like this, made not only without a particle of evidence, but directly against the reason of the case, upon the character of a public official. It was deemed best to allow the accuser to proceed, as it was evident he was bent on doing, to the point where he would become, by his own extravagance and inconsistency, the object of public ridicule, rather than of public indignation or of criminal animadversion. This came to pass, with poetical justice, when the assailant of the Census Office himself, in 1882, took and published a so-called census of the industries of Philadelphia. Having committed himself thus irrevocably to definite statements, he was easily dealt with. Mr. Frank R. Williams, the indefatigable and clear-sighted head of the manufacturing division of the census, proceeded to Philadelphia, under instructions from the Census Office, and there, on the ground, began the systematic, critical scrutiny of this work. Under such a test that plausible tissue of manufactured statistics disappeared like frost before the rising sun. Establishments were found upon these lists which were not only situated in other counties (Montgomery, Dauphin, and Lancaster) of Pennsylvania, but even in another state, New Jersey, establishments in the city of Camden, employing many hundreds of hands, being put down to the credit of Philadelphia, while selling agents or commission houses handling goods made in New York and other cities were freely included. The instances where establishments were twice reported were so numerous that it became first ludicrous and then tedious to recount them. In some cases establishments were thrice reported, and in one case not less than nine times. Hundreds of small newspaper and periodical offices and publishing houses were reported as "establishments of productive industry" where not a dollar's worth of printing was done in a year, the edition being set up and printed in job establishments, whose product was already once fully returned. In one case the whole body of carriers attached to a daily newspaper office were reported as manufacturing operatives. Corner drug-stores where prescriptions are compounded, custom tailors, mantua makers, milliners, civil engineers, and even retail butchers, were included to swell the total. As the culmination of this statistical monstrosity, the compiler of the Philadelphia Directory was brought in as a manufacturer.

## OTHER ATTACKS ON THE CENSUS OF MANUFACTURES.

No other attack has been made on the census of manufactures comparing in persistency or virulence with that above named; but a host of criticisms, more or less offensive, have been launched against the tables of manufacturing industry as published in bulletins from the Census Office. Not one of these, so far as the writer is aware, has been fairly substantiated upon examination. In most cases they have proved to be founded upon a simple misapprehension of the tables themselves; in some instances even in spite of express cautions appended to the figures. Thus, one assault upon the census, and that from a very respectable source, was due to the failure of the writer in question to add the farm product of butter and cheese to the factory product of the same articles. The two reported amounts, when duly put together, exceeded by a little over one per cent. the total which this writer had indignantly claimed for the region to which the statistics referred. Another attack, which went to the extent of declaring the whole census of manufactures a sham, was due to the failure of its author to note that the statistics relating to the boot and shoe industry, upon which he was commenting, covered, and professed to cover, only the products of the boot and shoe factories, 1,959 in number, and made no account of the 16,013 small custom shops or cobblers' shops (elsewhere duly reported under the appropriate title), which fell outside the range of the individual table whose statements were disputed. The character of a number of other heedless criticisms from various sources will be seen by reference to the letter which is reprinted upon pages 424 and 425. Still another sweeping attack, from a highly respectable quarter, was based upon a comparison of the statistics of paper-mills in 1870 and in 1880, the person making the comparison having omitted certain classes of mills at the one date which he had included, under precisely the same title, at the other.

No one who has had as much experience in statistical work as the present writer will be disposed to claim for an industrial census of a vast country like the United States, conducted by a large number of agents, many of whom, at the best, have had little training for the service, and all of whom are called to work under palpable disadvantages, anything like absolute and ultimate accuracy. But it does not seem too much to demand that, before men undertake the demolition of a great public work upon which untold labor has been expended, the assailants shall at least read the headings and titles of the tables they attack; and it would not seem to be asking an extravagant degree of caution on the part of the public that they should not condemn a body of official statistics upon the strength of a criticism by a writer whose own work shows that he cannot correctly add a short column of figures.

FRANCIS A. WALKER.

# APPENDIX.

## MANUFACTURES, BY STATES, IN 1810, GIVING THE INDUSTRIES, AS TABULATED BY COUNTIES, WITH PARTICULARS OF INFORMATION FURNISHED ACCORDING TO THE THIRD CENSUS OF THE UNITED STATES.

### MAINE.

*Cotton goods in families*: Yards, Value in dollars, etc.  
*Blended and unnamed cloths and stuffs*: Yards, Value in dollars.  
*Woolen goods in families*: Yards, Value in dollars, etc.  
*Cotton manufacturing establishments*: Number of.  
*Woolen manufacturing establishments*: Number of, Yards, Value in dollars.  
*Number of looms for cloths of cotton, wool, etc.*  
*Carding machines*: Number of machines, Quantity carded, Pounds, Value in dollars.  
*Fulling-mills*: Number, Yards, Value in dollars.  
*Number of spindles.*  
*Hatteries*: Fur hats, Value in dollars.  
*Number of air-furnaces.*

*Number of trip-hammers.*  
*Naileries*: Number, Pounds made, Value in dollars.  
*Augers and bits*: Number, Value in dollars.  
*Soap*: Pounds, Value in dollars.  
*Tanneries*: Number, Hides, Calfskins, Value in dollars.  
*Shoes, boots, and slippers*: Number, Value in dollars.  
*Saddlery*: Value in dollars.  
*Flaxseed oil*: Mills, Gallons made, Value in dollars.  
*Liquor distilled from fruit and grain*: Distilleries, Gallons, Value in dollars.  
*Carriages made*: Value in dollars.  
*Paper-mills*: Value in dollars.  
*Rope-walks*: Number of tons, Value in dollars.

### MASSACHUSETTS.

*Cotton manufacturing establishments*: Number, Yards, Value in dollars.  
*Cotton duck*: Pieces, Value in dollars.  
*Hempen manufacturing establishments*: Pieces sail duck, Value in dollars.  
*Blended and unnamed cloths and stuffs*: Yards, Value in dollars.  
*Tow cloth*: Yards, Value in dollars.  
*Woolen manufacturing establishments*: Establishments, Yards, Value in dollars.  
*Cotton and wool spun in mills*: Pounds spun, Value in dollars.  
*Web, lace, and fringe*: Value in dollars.  
*Stockings*: Pairs, Value in dollars.  
*Looms for cloths, cotton, wool, etc.*: Number.  
*Carding machines*: Number, Pounds carded, Value in dollars.  
*Fulling-mills*: Number, Yards, Value in dollars.  
*Sewing silk and raw silk*: Pounds, Value in dollars.  
*Jennies.*  
*Spindles.*  
*Wire-card manufactories*: Number, Dozen of hand-cards, Value in dollars, Feet of cards, Value in dollars.  
*Spinning wheels*: Number, Value in dollars.  
*Hatteries*: Fur hats, Value in dollars.  
*Furnaces*: Tons, Value in dollars.  
*Bar iron, etc.*: Forges, Tons, Value in dollars.  
*Trip-hammers.*  
*Rolling and slitting mills*: Number, Tons, Value in dollars.  
*Naileries*: Number, Value in dollars.  
*Wire-drawing*: Value in dollars.  
*Gunsmiths*: Number of muskets, Value in dollars.  
*Blacksmiths' work*: Value in dollars.  
*Steel furnaces*: Number, Tons, Value in dollars.  
*Hydraulic engine makers*: Number, Amount in dollars.

*Tacks*: Number, Value in dollars.  
*Clocks and watches*: Value in dollars.  
*Gold and silver work*: Value in dollars.  
*Tin-plate work*: Value in dollars.  
*Manufactures of mixed metals*: Pounds made, Value in dollars.  
*Copper and brass manufactures*: Pounds made, Value in dollars.  
*Bells*: Pounds, Value in dollars.  
*Buttons*: Value in dollars.  
*Lead*: Value in dollars.  
*Tallow candles*: Pounds, Value in dollars.  
*Soap*: Barrels, Pounds, Value in dollars.  
*Spermaceti candles*: Pounds, Value in dollars.  
*Spermaceti oil*: Gallons.  
*Whale oil*: Gallons.  
*Spermaceti and whale oil*: Value in dollars.  
*Tanneries*: Number, Hides, Calfskins, Hogskins, Sheepskins, Value in dollars.  
*Boots, shoes, and slippers*: Number, Value in dollars.  
*Saddlery*: Value in dollars.  
*Morocco skins*: Number, Value in dollars.  
*Leather gloves*: Dozen, Value in dollars.  
*Catgut*: Value in dollars.  
*Flaxseed oil*: Number of mills, Gallons, Value in dollars.  
*Spirits distilled from grain*: Gallons.  
*Spirits distilled from molasses*: Gallons.  
*All kinds of spirits distilled*: Value in dollars.  
*Beer*: Gallons, Value in dollars.  
*Shipping*: Number of tons, Value in dollars.  
*Cabinet work*: Value in dollars.  
*Chairs*: Dozen, Value in dollars.  
*Carriage makers*: Number of carriages, Value in dollars.  
*Wagons*: Number, Value in dollars.

## MASSACHUSETTS—Continued.

*Rakes*: Manufactures, Number of rakes, Value in dollars.  
*Wooden ware unnamed*: Value in dollars.  
*Essence of spruce*: Pounds, Value in dollars.  
*Oil or essence of turpentine*: Gallons, Value in dollars.  
*Sugar, refined*: Pounds, Value in dollars.  
*Paper*: Mills, Reams, Rolls, Value in dollars.  
*Playing cards*: Value in dollars.  
*Marble saw-mills*: Saw-mills, Feet, Value in dollars.  
*Manufactures of soapstone*: Value in dollars.  
*Manufactures of glass*: Value in dollars.  
*Tobacco and snuff*: Pounds, Value in dollars.  
*Potteries*: Value in dollars.  
*Glauber salts*: Pounds, Value in dollars.  
*Laboratories*: Value in dollars.  
*Printers' ink*: Pounds, Value in dollars.  
*Rope-walks*: Tons made, Value in dollars.  
*Brushes*: Dozen, Value in dollars.  
*Chocolate*: Pounds, Value in dollars.

*Corn brooms*: Number, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.  
*Horn combs*: Dozen, Value in dollars.  
*Musical instruments*: Value in dollars.  
*Salt*: Feet of roofs of works, Bushels made, Value in dollars.  
*Straw bonnets*: Value in dollars.  
*Spectacles*: Value in dollars.  
*Steel thimbles*: Dozens, Value in dollars.  
*Whips*: Dozens, Value in dollars.  
*Coopers' shops*: Casks, Value in dollars.

## CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Grist-mills*: Mills, Bushels ground, Value in dollars.  
*Saw-mills*: Mills, Quantity in feet, Value in dollars.  
*Ashes*: Tons, Value in dollars.  
*Fisheries*: Barrels of mackerel, Value in dollars.  
*Bricks*: Number, Value in dollars.  
*Saltpeter*: Pounds, Value in dollars.

## NEW HAMPSHIRE.

*Cotton goods in families, etc.*: Yards.  
*Cotton manufacturing establishments*: Yards.  
*Mixed goods in families, etc.*: Yards.  
*Flaxen goods in families, etc.*: Yards.  
*Blended and unnamed cloths and stuffs*: Yards.  
*Tow cloths*: Yards.  
*Woolen goods in families, etc.*: Yards.  
*Value of all kinds of cloths and stuffs*: Dollars.  
*Looms*: Number.  
*Carding machines*: Number, Pounds carded, Value in dollars.  
*Pulling-mills*: Number, Yards fulled, Value in dollars.

*Spindles*: Number.  
*Hatteries*: Wool and mixed hats, Fur hats, Value in dollars.  
*Forges*: Number, Tons of iron, Value in dollars.  
*Number of trip-hammers*.  
*Naileries*: Number, Tons of nails, Value in dollars.  
*Tanneries*: Number, Pounds of leather tanned, Value in dollars.  
*Flaxseed oil*: Mills, Gallons, Value in dollars.  
*Spirits distilled*: Distilleries, Gallons, Value in dollars.  
*Paper*: Mills, Value of paper in dollars.  
*Rope-walks*: Number, Value of work in dollars.

## VERMONT.

*Cotton goods in families, etc.*: Yards, Value in dollars.  
*Cotton manufacturing establishments*: Number, Yards, Value in dollars.  
*Flaxen goods in families, etc.*: Yards, Value in dollars.  
*Mixed cloth and hempen chiefly mixed*: Yards, Value in dollars.  
*Blended and unnamed cloths and stuffs, and values*: Yards, Value in dollars.  
*Woolen goods in families, etc.*: Yards, Value in dollars.  
*Woolen manufacturing establishments*: Establishments, Yards, Value in dollars.  
*Web, lace, and fringe*: Yards, Value in dollars.  
*Cotton and wool spun in mills*: Mills, Pounds spun, Value in dollars.  
*Stockings*: Pairs, Value in dollars.  
*Spinning wheels for cotton, flax, and wool*: Number.  
*Looms for cloths of cotton, wool, etc.*: Number.  
*Reeds made*: Number, Value in dollars.  
*Carding machines*: Number, Pounds carded, Value in dollars.  
*Labor-saving machinery*: Billies, Jennies, Looms with fly shuttles, Spindles.  
*Pulling-mills*: Mills, Yards fulled, Value in dollars.  
*Hatteries*: Hatteries, Wool, mixed and all kinds of hats, Number, Value in dollars.  
*Blast and air furnaces*: Blast-furnaces, Total number, Value in dollars.  
*Bloomeries*: Tons made, Value in dollars.  
*Forges*: Number, Tons of bar-iron, Value in dollars.  
*Trip-hammers*: Trip-hammers, Tons made, Value in dollars.  
*Naileries*: Naileries, Pounds of nails made, Value in dollars.  
*Blacksmiths' shops*: Number of shops, Dozens of iron shovels, Value in dollars.  
*Brass clocks*: Number of clocks, Value in dollars.  
*Tin and copper ware*: Number of shops, Value in dollars.

*Buttons*: Value in dollars.  
*Tanneries*: Number of tanneries, Hides and skins, Number, Value in dollars.  
*Saddlery*: Value in dollars.  
*Shoes, boots, and slippers*: Pairs, Value in dollars.  
*Leather gloves*: Dozen, Value in dollars.  
*Flaxseed oil*: Mills, Gallons, Value in dollars.  
*Spirits distilled from fruit, potatoes, and grain*: Distilleries, Gallons, Value in dollars.  
*Breweries*: Number.  
*Cabinet maker's work*: Value in dollars.  
*Wooden clocks*: Number, Value in dollars.  
*Paper*: Mills, Reams, Value in dollars.  
*Marble saw-mills*: Mills, Feet sawed, Value in dollars.  
*Potteries*: Number, Value in dollars.  
*Sieves*: Number, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.  
*Horn combs*: Dozen, Value in dollars.  
*Books printed*: Printing offices, Number of volumes printed, Value in dollars.  
*Straw bonnets*: Number, Value in dollars.

## ARTICLES OF A DOUBTFUL NATURE AS RETURNED BY THE DEPUTY MARSHALS.

*Pot and pearl ashes*: Potash, Value in dollars, Pearl ashes, Barrels, Value in dollars, Pot and pearl ashes not distinguished, Value in dollars.  
*Maple sugar*: Pounds, Value in dollars.  
*Lime*: Bushels, Value in dollars.  
*Copperas*: Tons, Value in dollars.  
*Malt*: Malt-houses, Bushels made, Value in dollars.

## RHODE ISLAND.

*Cotton goods in families, etc.*: Yards, Value in dollars.  
*Cotton manufacturing establishments*: Number, Yards, Value in dollars.  
*Flaxen goods in families, etc.*: Yards, Value in dollars.  
*Blended and unnamed cloths and stuffs*: Yards, Value in dollars.  
*Woolen goods in families, etc.*: Yards, Value in dollars.  
*Woolen manufacturing establishments*: Number, Yards, Value in dollars.  
*Web, lace and fringe*: Yards, Value in dollars.  
*Cotton and wool spun in mills*: Pounds, Value in dollars.  
*Stockings*: Pairs, Value in dollars.  
*Thread*: Runs and skeins, Value in dollars.  
*Number of looms for cloth of cotton, wool, etc.*  
*Carding machines*: Number, Pounds carded, Value in dollars.  
*Fulling-mills*: Number, Yards full, Value in dollars.  
*Mules*: Number.  
*Throssels*: Number.  
*Spinning frames*: Number.  
*Spindles*: Number.  
*Mills for making machinery for manufacturing cotton and wool*: Mills, Value in dollars.  
*Hatteries*: Hatteries, Wool and mixed hats, Fur hats, Value in dollars.  
*Furnaces*: Number, Tons of iron, Value in dollars.  
*Bloomeries*: Number.  
*Forges*: Number, Tons of iron, Value in dollars.  
*Trip-hammers*: Number, Value of work in dollars.  
*Rolling and slitting mills*: Mills, Tons, Value in dollars.  
*Naileries*: Number, Pounds made, Value in dollars.  
*Gunsmiths*: Establishments, Guns made.

*Steel furnaces*: Number, Tons of steel, Value in dollars.  
*Wood-screws manufactory*: Manufactures, Gross made, Value in dollars.  
*Brass founderies*: Number, Pounds of brass, Value in dollars.  
*Tanneries*: Tanneries, Hides, Calfskins, Sole leather, Pounds, Hogskins, Sheepskins, Total value in dollars.  
*Shoes and slippers*: Pairs, Value in dollars.  
*Saddles and bridles, etc.*: Number, Value in dollars.  
*Trunks*: Number, Value in dollars.  
*Morocco*: Number of skins, Value in dollars.  
*Leather gloves*: Pairs, Value in dollars.  
*Mills for dressing leather*.  
*Flaxseed oil*: Number of mills, Gallons, Value in dollars.  
*Spirits distilled*: Distilleries, Gallons, Value in dollars.  
*Currant wine*: Gallons, Value in dollars.  
*Bark-mills*: Number.  
*Sugar refineries*: Number.  
*Paper*: Mills, Reams, Tons, Value in dollars.  
*Paperhanging*: Pieces, Value in dollars.  
*Rope-walks*: Number, Tons made, Value in dollars.  
*Salt*: Number of works, Bushels, Value in dollars.  
*Straw bonnets*: Number, Value in dollars.  
*Candles*: Pounds made, Value in dollars.  
*Snuff-mills*: Number.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Grist-mills*: Number.  
*Saw-mills*: Number.  
*Lime*: Number of kilns, Bushels, Value in dollars.

## CONNECTICUT.

*Cotton manufacturing establishments*.  
*Flaxen goods in families, etc.*: Yards, Value in dollars.  
*Hempen manufacturing establishments*: Value in dollars of goods made.  
*Blended and unnamed cloths and stuffs*: Yards, Value in dollars.  
*Woolen goods in families, etc.*: Yards, Value in dollars.  
*Woolen manufacturing establishments*.  
*Stockings and web suspenders*: Value in dollars.  
*Sewing silk and raw silk*: Value in dollars.  
*Looms for cloths of cotton, wool, etc.*: Number.  
*Carding machines*: Number, Pounds.  
*Fulling-mills*: Number.  
*Spindles*: Number.  
*Hats*: Value in dollars.  
*Blast and air furnaces*: Number, Value in dollars.  
*Forges*: Forges, Tons of bar iron, Value in dollars.  
*Trip-hammers*: Number, Value in dollars of work.  
*Rolling and slitting mills*.  
*Nails*: Naileries, Value in dollars of nails.  
*Gunsmiths*: Guns, Value in dollars.  
*Tin-plate work*: Value in dollars.  
*Type founderies*.  
*Brass, jewelry, and plated ware*: Value in dollars.

*Brass founderies*.  
*Buttons*: Gross, Value in dollars.  
*Tanneries*: Number, Value of leather in dollars.  
*Saddlery, shoes, and shoe binding of leather*: Value in dollars.  
*Flaxseed oil*: Mills, Value in dollars.  
*Spirits distilled*: Distilleries, Gallons distilled from fruit and grain, Value in dollars.  
*Carriages*: Value in dollars.  
*Wooden clocks*: Number, Value in dollars.  
*Paper*: Mills, Value in dollars.  
*Marble work*: Value in dollars.  
*Glass*: Works, Value in dollars.  
*Potteries*: Number, Value in dollars of wares.  
*Rope-walks*: Walks, Value in dollars of cordage.  
*Gunpowder*: Mills, Value in dollars.  
*Combs*: Value in dollars.  
*Straw bonnets*: Value in dollars.  
*Miscellaneous goods*: Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Bricks*: Value in dollars.

## NEW YORK.

*Cotton goods made in families, etc.*: Yards, Value in dollars.  
*Cotton manufacturing establishments*.  
*Flaxen goods in families, etc.*: Yards, Value in dollars.  
*Blended and unnamed cloths and stuffs*: Yards, Value in dollars.  
*Tow cloth*: Yards, Value in dollars.  
*Woolen goods in families, etc.*: Yards, Value in dollars.  
*Thread*: Runs, Value in dollars.  
*Looms*.  
*Carding machines*: Number, Pounds carded, Value in dollars.  
*Fulling-mills*: Number, Yards full, Value in dollars.  
*Spindles*.  
*Hatteries*: Number, Hats, Value in dollars.  
*Furnaces*: Blast furnaces, Air furnaces, Tons of iron, Value in dollars.  
*Bloomeries*: Number, Tons of iron, Value in dollars.  
*Forges*: Number, Tons of iron, Value in dollars.  
*Trip-hammers*.

*Rolling and slitting mills*: Number, Tons, Value in dollars.  
*Naileries*: Number, Pounds of Nails, Value in dollars.  
*Tanneries*: Number, Hides tanned, Calfskins tanned, Sheepskins tanned, Value in dollars.  
*Morocco*: Skins, dozen, Value in dollars.  
*Flaxseed oil*: Number, Gallons, Value in dollars.  
*Spirits distilled*: Number of distilleries, Gallons, Value in dollars.  
*Breweries*: Number, Gallons brewed, Value in dollars.  
*Refined sugar*: Refineries, Pounds refined, Value in dollars.  
*Paper*: Mills, Reams made, Value in dollars.  
*Glass*: Works, Square feet of glass, Value in dollars.  
*Tobacco and Snuff*: Mills, Pounds of tobacco, Pounds of snuff, Value in dollars.  
*Rope-walks*: Walks, Tons of cordage, Value in dollars.  
*Chocolate*: Mills, Pounds, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.



## NEW JERSEY.

*Cotton manufacturing establishments*: Establishments, Yards made, Value in dollars.

*Mixed cloth and cotton establishments, chiefly mixed*: Yards made, Value in dollars.

*Flaxen goods in families, etc.*: Yards made, Value in dollars.

*Blended and unnamed cloths and stuffs*: Yards made, Value in dollars.

*Woolen goods in families, etc.*: Yards made, Value in dollars.

*Blankets of wool*: Number, Value in dollars.

*Carpeting and coverlets*: Yards made, Value in dollars.

*Yarn*: Pounds, Value in dollars.

*Cotton and wool spun in mills*: Pounds, Value in dollars.

*Silk manufactories*: Number, Yards made, Value in dollars.

*Stockings*: Pairs, Value in dollars.

*Looms*.

*Reed manufactories*: Number, Value in dollars.

*Carding machines*: Number, Pounds, Value in dollars.

*Fulling-mills*: Number, Yards full, Value in dollars.

*Labor-saving machinery*: Drawing and roving machines, Mules, Billies, Jennies, Throssels, Twisters, Spring frames, Spindles.

*Hatteries*: Fur hats, Value in dollars.

*Blast and air furnaces*: Number, Tons, Value in dollars.

*Bloomeries*: Number, Tons of iron, Value in dollars.

*Forges*: Number, Tons of bar-iron, etc., Value in dollars.

*Trip-hammers*: Number, Tons of wrought-iron, Value in dollars.

*Rolling and slitting mills*: Number, Tons rolled and slit, Value in dollars.

*Naileries*: Number, Pounds, Value in dollars.

*Wire-drawing manufactories*.

*Guns*: Establishments, Number made, Value in dollars.

*Steel furnaces*: Number, Tons, Value in dollars.

*Door locks*: Number, Value in dollars.

*Large screws, steel springs, etc.*: Value in dollars.

*Tin-plate work*: Value in dollars.

*Plating manufactories*: Number, Value in dollars.

*Hydrostatic machines*.

*Tallow candles*: Value in dollars.

*Soap*: Value in dollars.

*Tanneries*: Number, Hides, Calfskins, Sheepskins, Leather unnamed, Leather by weight reduced to pounds, Value in dollars.

*Shoes, boots, and slippers*: Pairs, Value in dollars.

*Flaxseed-oil mills*: Number, Gallons, Value in dollars.

*Distilleries*: Number, Gallons, Value in dollars.

*Breweries*: Number, Gallons brewed, Value in dollars.

*Carriages made*: Value in dollars.

*Bark, ground*: Value in dollars.

*Paper*: Mills, Reams, Value in dollars.

*Playing cards*: Dozen of packs, Value in dollars.

*Glass manufactories*: Glass works, Square feet of glass, Bottles, Value in dollars.

*Potteries*: Number, Value in dollars.

*Drugs*: Value in dollars.

*Paints*: Manufactories, Tons, Value in dollars.

*Chocolate*: Mills, Pounds, Value in dollars.

*Gunpowder*: Mills, Pounds, Value in dollars.

*Straw bonnets*: Number, Value in dollars.

*Bookbinders*.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Mahogany, sawed*: Value in dollars.

*Bricks*: Value in dollars.

## PENNSYLVANIA.

*Cotton goods in families, etc.*: Yards made.

*Cotton manufacturing establishments*: Number, Yards made.

*Flaxen cloth in families, etc.*: Yards made.

*Mixed cloth and hempen ditto, chiefly mixed*: Yards made.

*Hempen cloth manufacturing establishments*: Yards made.

*Woolen cloth in families, etc.*: Yards made.

*Woolen cloth manufacturing establishments*: Yards made.

*Total value in dollars of all kinds of cloths and stuffs*.

*Carpeting and coverlets*: Yards made, Value in dollars.

*Hempen and flaxen yarn*: Mills, Tons, Value in dollars.

*Stockings*: Pairs, Value in dollars.

*Shirt buttons*: Dozens, Value in dollars.

*Cotton and wool spun in mills*: Pounds, Value in dollars.

*Web, lace, and fringe*: Yards, Value in dollars.

*Hand-cards*: Number.

*Spinning-wheels*: Number.

*Looms*: Number.

*Reeds manufactured*: Value in dollars.

*Carding machines*: Number, Pounds carded, Value in dollars.

*Fulling-mills*: Number, Yards full, Value in dollars.

*Labor-saving machinery*: Drawing and roving machines, Mules, Billies, Jennies, Throssels, Twisters, Spooling-machines, Stretchers, Looms with fly-shuttles, Water frames, Reeds, Patent shearing-machines, Wool-pickers, Spin-frames, Spindles, Manufactories for cotton rollers, Machines for cutting and setting card teeth, Wheel-iron manufactories. Quantity, Value in dollars.

*Hand cards*: Establishments, Value in dollars.

*Floor-cloth stamping*: Number, Yards, Value in dollars.

*Machine makers*: Number, Value in dollars.

*Patent hat-loom*: Number, Quantity woven of cotton and straw, Value in dollars.

*Hats*: Number of hatteries, Wool and mixed hats, Fur hats, Value in dollars.

*Furnaces*: Blast-furnaces, Air-furnaces, Total number, Tons, Value in dollars.

*Bloomeries*: Number, Value in dollars.

*Forges*: Number, Tons made, Value in dollars.

*Trip-hammers*: Number, Value in dollars.

*Rolling and slitting mills*: Number, Tons of rolled iron, Tons of slit iron, Value in dollars.

*Nails*: Naileries, Pounds of nails, Value in dollars.

*Boring-mills*: Number, Guns bored, Cannon bored, Value in dollars.

*Wire-drawing*: Establishments, Value in dollars.

*Gun manufactories*: Number, Guns, Rifles, Other, Value in dollars.

*Blacksmiths*: Number of shops, Value in dollars.

*Steel furnaces*: Tons, Value in dollars.

*Saw manufactories*: Number, Value in dollars.

*Wire workers*: Number, Value in dollars.

*Planes*: Establishments, Number of planes, Value in dollars.

*Cutlers*: Number of shops, Value in dollars.

*Currycombs*: Dozen, Value in dollars.

*Mills for grinding flatirons*: Number, Value in dollars.

*File factories*: Number, Value in dollars.

*Hydraulic-engine makers*: Number, Value in dollars.

*Gold and silver work and jewelry*: Value in dollars.

*Tin-plate work*: Quantity, Value included in *Copper*, etc.

*Type founderies*: Pounds.

*Coffee-mills*: Number made, Value in dollars.

*Copper, brass, and tin*: Number of manufactories, Pieces made, Value in dollars, which includes value of tin-plate work.

*Bell founderies*: Number, Value in dollars.

*Buttons*: Manufactories, Gross, Value in dollars.

*Black lead*: Establishments, Value in dollars.

*Red and white lead*: Tons made.

*Leaden shot*: Manufactories, Tons made.

*Red and white lead, leaden shot and types*: Value in dollars.

*Plumbers*: Establishments, Value in dollars.

*Soap and candles*: Manufactories, Pounds of soap, Pounds of candles, Value of soap and candles in dollars.

*White wax candles*: Manufactories, Value in dollars.

*Spring oil*: Gallons, Value in dollars.

*Tanneries*: Tanneries, Value in dollars.



## PENNSYLVANIA—Continued.

*Shoes, boots, slippers, trunks, and saddlery*: Pairs of shoes, boots, and slippers, trunks, saddles, and bridles, Value of shoes, boots, and slippers, trunks, and saddlery.  
*Harness*: Value in dollars.  
*Morocco*: Factories, Dozen of skins, Value in dollars.  
*Moccasins*: Pairs, Value in dollars.  
*Buckskin overalls*: Pairs.  
*Leather gloves*: Pairs.  
*Gloves and overalls*: Value in dollars.  
*Glue*: Quantity in pounds, Value in dollars.  
*Razor strop*: Manufactories, Value in dollars.  
*Furriers*: Number, Value in dollars.  
*Mustard makers*: Manufactories, Pounds, Value in dollars.  
*Flaxseed oil*: Mills, Gallons made, Value in dollars.  
*Distilleries*: Number, Gallons, Value in dollars.  
*Breweries*: Number, Barrels, Value in dollars.  
*Wine*: Barrels grape wine, Barrels currant wine, Value in dollars.  
*Starch and hair powder*: Manufactories, Pounds, Value in dollars.  
*Wafers*: Manufactories, Value in dollars.  
*Shipping*: Tons, Value in dollars.  
*Boats*: Tons, value in dollars.  
*Cabinet makers*: Makers, Value of work in dollars.  
*Wagons*: Number, Value in dollars.  
*Carriages*: Number of shops, Value in dollars,  
*Coopers' shops*: Number, Value in dollars.  
*Water turning machines*: Number, Value in dollars.  
*Saddle-trees*: Makers, Value in dollars.  
*Last and boot trees*: Makers, Value in dollars.  
*Print cutting*: Establishments, Value in dollars.  
*Printing presses*: Manufactories, Value in dollars.  
*Bark*: Mills.  
*Baskets*: Number, Value in dollars.  
*Cork-cutting*: Establishments, Value in dollars.  
*Chip hats*: Number.  
*Spirits of turpentine and varnish*: Gallons, Value in dollars.  
*Sugar*: Refineries, Pounds, Value in dollars.  
*Paper*: Mills, Reams, Tons, Value in dollars.  
*Paperhanging*: Manufactories, Pieces stamped, Value in dollars.  
*Playing cards*: Manufactories, Value in dollars.  
*Marble yards*: Number, Value in dollars.  
*Marble saw-mills*: Number, Value in dollars.  
*Stonecutters*: Number, Value in dollars.  
*Glass*: Works, Value in dollars.  
*Glass cutting*: Establishments, Value in dollars.  
*American cigars*: Manufactories, Number made, Value in dollars.  
*Spanish cigars*: Manufactories, Number made, Value in dollars.  
*Snuff and tobacco*: Mills, Value in dollars.  
*Potteries*: Number, Pieces made, Value in dollars.

*Drugs*: Manufactories, Value in dollars.  
*Laboratories*: Number, Tons of nitre, borax, brimstone, etc., Value in dollars.  
*Prussian blue*: Pounds, Value in dollars.  
*Lampblack*: Manufactories, Value in dollars.  
*Dyers*: Number, Value in dollars.  
*Rope-walks*: Number, Tons made, Value in dollars.  
*Tobacco and snuff*: Pounds.  
*Brushes*: Manufactories, Value in dollars.  
*Horse-hair cloth*: Manufactories, Value in dollars.  
*Hand-bellows*: Manufactories, Value in dollars.  
*Chocolate*: Pounds, Value in dollars.  
*Composition ornaments*: Makers, Value in dollars.  
*Drums*: Manufactories, Value in dollars.  
*Engravings*: Establishments, Value in dollars.  
*Bookbinders*: Number, Value in dollars.  
*Artificial flowers*: Manufactories, Value in dollars.  
*Gunpowder*: Mills, Pounds made, Value in dollars.  
*Ginger*: Manufactories, Pounds, Value in dollars.  
*Combs*: Dozen, Value in dollars.  
*Looking-glasses*: Framers, Value in dollars.  
*Muslin and linen printers*: Establishments, Hands employed, Yards of gown stuff, shawls, handkerchiefs, etc., Value in dollars.  
*Printing*: Offices, Value in dollars.  
*Salt*: Works, Bushels, Value in dollars.  
*Suspenders*: Manufactories, Dozens, Value in dollars.  
*Umbrellas*: Manufactories, Value in dollars.  
*Upholsterers*: Number, Value in dollars.  
*Whips*: Manufactories, Value in dollars.  
*Hemp*: Pounds, Value in dollars.  
*Wheat mills*: Number, Bushels, Barrels, Value in dollars.  
*Matt*: Bushels, Value in dollars.  
*Hulling-mills*: Number, Value in dollars.

## CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Barley*: Mills, Pounds, Value in dollars.  
*Clover*: Mills, Bushels, Value in dollars.  
*Windmills*: Value in dollars.  
*Mahogany*: Saw-mills, Feet, Value in dollars.  
*Saw-mills*: Number, Feet, Value in dollars.  
*Potash*: Value in dollars.  
*Maple sugar*: Pounds, Value in dollars.  
*Rosin and pitch*: Barrels.  
*Slate*: Quarries, Value in dollars.  
*Bricks*: Number of kilns, Number of bricks, Value in dollars.  
*Hemp-mills*: Pounds, Value in dollars.  
*Lime*: Kilns, Bushels, Value in dollars.  
*Plaster of paris*: Tons ground, Value in dollars.

## DELAWARE.

*Cotton in families, etc.*: Yards, Value in dollars.  
*Cotton manufacturing establishments*: Number.  
*Flaxen goods in families, etc.*: Yards made, Value in dollars.  
*Mixed cloth and hempen, chiefly mixed*: Yards made, Value in dollars.  
*Woolen goods in families, etc.*: Yards made, Value in dollars.  
*Woolen manufacturing establishments*: Number, Yards made, Value in dollars.  
*Cotton and wool spun in mills*: Pounds, Value in dollars.  
*Stockings*: Pieces, Value in dollars.  
*Looms*: Number.  
*Carding-machines*: Number.  
*Fulling-mills*: Number.  
*Spindles*: Number.  
*Hatteries*: Fur hats, Wool and mixed hats, Value in dollars.  
*Forges*: Number, Tons, Value in dollars.  
*Rolling and slitting mills*: Number, Tons, Value in dollars.

*Nails*: Naileries, Pounds, Value in dollars.  
*Tanneries*: Number, Hides and skins tanned, Pounds tanned, Value in dollars.  
*Shoes and boots*: Pairs, Value in dollars.  
*Distilleries*: Number, Gallons, Value in dollars.  
*Breweries*: Number, Barrels, Value in dollars.  
*Paper-mills*: Number, Value in dollars.  
*Snuff-mills*: Number, Pounds, Value in dollars.  
*Rope-walks*: Number, Tons, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.  
*Salt*: Works, Barrels, Value in dollars.

## CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Grist-mills*: Number, Barrels of flour, Barrels of cornmeal, Value in dollars.  
*Barley-mills*: Number, Pounds, Value in dollars.

## MARYLAND.

*Cotton manufacturing establishments.*

*Blended and unnamed cloths and stuffs:* Yards made, Value in dollars.

*Woolen manufacturing establishments.*

*Carpeting and coverlets:* Yards made, Value in dollars.

*Cotton and wool spun in mills:* Pounds, Value in dollars.

*Stockings:* Pairs, Value in dollars.

*Looms.*

*Stocking looms.*

*Carding-machines:* Number, Pounds, Value in dollars.

*Fulling-mills:* Mills, Yards fulled, Value in dollars.

*Labor-saving machinery:* Drawing and various machines, Mules, Jennies, Looms with flying shuttles, Reeds, Spinning frames, Spindles.

*Weaving machines by water.*

*Hatteries:* Number, Wool and mixed hats, Value in dollars.

*Furnaces:* Blast-furnaces, Air-furnaces, Total number, Tons made, Value in dollars.

*Forges:* Number, Tons, Value in dollars.

*Trip-hammers:* Number, Value in dollars.

*Rolling and slitting mills:* Number, Tons, Value in dollars.

*Naileries:* Number, Pounds of made, Value in dollars.

*Gunsmiths:* Number, Rifles, Other, Value in dollars.

*Blacksmiths:* Number, Value in dollars.

*Clocks and watches:* Makers, Value in dollars.

*Silversmiths.*

*Tin-plate:* Workers, Value in dollars.

*Type foundries.*

*Still manufactories:* Number, Stills, Value in dollars.

*Brass:* Foundries, Value in dollars.

*Tanneries:* Number, Hides and skins, Value in dollars.

*Shoes, boots, and slippers:* Manufactories, Pairs, Value in dollars.

*Saddlers:* Number, Saddles and bridles, Value in dollars.

*Harness:* Sets.

*Morocco dressers.*

*Glue:* Value in dollars.

*Flaxseed oil:* Mills, Gallons, Value in dollars.

*Distilleries:* Number, Gallons from fruit and grain, Value in dollars.

*Breweries:* Number, Barrels, Value in dollars.

*Starch and hair powder:* Manufactories, Pounds, Value in dollars.

*Cabinet makers:* Number, Value in dollars.

*Candles:* Manufactories, Value in dollars.

*Carriages:* Manufactories, Value in dollars.

*Saddle-trees:* Makers, Number of saddle-trees, Value in dollars.

*Sugar, refined:* Refiners, Pounds, Value in dollars.

*Paper:* Mills, Reams, Value in dollars.

*Marble yards:* Number, Value in dollars.

*Soapstone:* Value in dollars.

*Millstone manufactories:* Number, Value in dollars.

*Glass:* Works, Square feet, Bottles, Value in dollars.

*Tobacco:* Manufactories, Value in dollars.

*Potteries:* Number, Value in dollars.

*Drugs and dyestuffs:* Gallons, Castor oil, Value in dollars. Jallop, Pounds, Value in dollars. Turmeric, Pounds, Value in dollars.

*Peruvian bark,* Value in dollars.

*Rope-walks:* Number, Tons, Value in dollars.

*Brush makers:* Number, Value in dollars.

*Curled hair:* Manufactories, Value in dollars.

*Chocolate:* Manufactories, Pounds.

*Gunpowder:* Mills, Pounds, Value in dollars.

*Tortoise, ivory, and horn manufactories:* Value in dollars.

*Salt:* Works, Bushels, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Flour-mills:* Mills, Barrels, Value in dollars.

*Saw-mills.*

*Windmills.*

*Tobacco:* Hogsheads, Value in dollars.

## VIRGINIA.

*Cotton goods in families, etc.:* Yards made.

*Mixed goods and cotton goods in families:* Yards made.

*Flaxen goods in families:* Yards made.

*Woolen goods in families:* Yards made.

*The total value of all kinds of cloths and stuffs.*

*Stockings:* Pairs, Value in dollars.

*Looms:* Number.

*Stocking manufactories.*

*Carding-machines.*

*Fulling-mills.*

*Spindles.*

*Hats:* Wool and mixed hats, Value in dollars.

*Furnaces:* Blast-furnaces, Air-furnaces, Total number, Tons, Value in dollars.

*Bloomeries.*

*Forges:* Number, Tons, Value in dollars.

*Trip-hammers:* Number, Value in dollars.

*Rolling and slitting mills:* Value in dollars.

*Naileries:* Pounds, Value in dollars.

*Fulling-mills:* Yards, Value in dollars.

*Spinning frames.*

*Spinning-wheels:* Number.

*Cannon:* Number, Value in dollars.

*Guns:* Rifles, Other, Value in dollars.

*Swords:* Number, Value in dollars.

*Blacksmiths' work:* Value in dollars.

*Steel furnaces:* Number, Tons, Value in dollars.

*Door locks:* Number, Value in dollars.

*Augers:* Number, Value in dollars.

*Clocks and watches:* Value in dollars.

*Gold and silver work and jewelry:* Value in dollars.

*Tin and copper ware:* Value in dollars.

*Stills:* Number, Value in dollars.

*Copper, brass, and tin:* Pounds, Value in dollars.

*Buttons:* Value in dollars.

*Lead:* Tons, Value in dollars.

*Leaden shot:* Value in dollars.

*Soap and candles:* Pounds of candles, Pounds of soap, Value of candles, Value of soap.

*Tanneries:* Number, Hides, Value in dollars.

*Shoes, boots, and slippers:* Pairs, Value in dollars.

*Harness:* Sets, Value in dollars.

*Value of saddlery in dollars.*

*Flaxseed oil:* Mills, Gallons, Value in dollars.

*Distilleries:* Number, Gallons, Value in dollars.

*Breweries:* Number, Gallons, Value in dollars.

*Windsor chairs:* Dozens, Value in dollars.

*Cabinet ware:* Value in dollars.

*Carriages:* Number, Value in dollars.

*Paper:* Mills, Reams, Value in dollars.

*Coopers:* Barrels made, Value in dollars.

*Snuff and tobacco:* Pounds, Value in dollars.

*Potteries:* Number, Value in dollars.

*Rope-walks:* Number, Value in dollars.

*Curled hair:* Pounds, Value in dollars.

*Gunpowder:* Mills, pounds, Value in dollars.

*Salt:* Bushels, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Wheat:* Mills, Barrels of flour made, Value in dollars.

*Number of saw-mills.*

*Saltpeter:* Pounds made, Value in dollars.

*Maple sugar:* Pounds, Value in dollars.

## OHIO.

*Cotton goods in families, etc.*: Yards, Value in dollars.  
*Cotton manufacturing establishments.*  
*Flaxen goods in families, etc.*: Yards made, Value in dollars.  
*Blended and unnamed cloths and stuffs*: Yards made, Value in dollars.  
*Woolen goods in families, etc.*: Yards made, Value in dollars.  
*Cotton and wool spun in mills*: Pounds, Value in dollars.  
*Looms*: Number.  
*Carding-machines*: Number, Pounds carded, Value in dollars.  
*Spindles.*  
*Fulling-mills*: Number, Value in Dollars.  
*Furnaces*: Number, Tons, Value in Dollars.  
*Bloomeries*: Number, Tons, Value in dollars.

*Naileries*: Number, Pounds, Value in dollars.  
*Tanneries*: Number, Hides, Value in dollars.  
*Flaxseed oil mills*: Number, Gallons, Value in dollars.  
*Distilleries*: Number, Gallons, Value in dollars.  
*Breweries*: Number, Gallons, Value in dollars.  
*Paper*: Mills, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.  
*Salt*: Bushels, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Maple sugar*: Pounds, Value in dollars.

## KENTUCKY.

*Cotton manufacturing establishments.*  
*Blended and unnamed cloths and stuffs*: Yards made, Value in dollars.  
*Bagging, for cotton, made of hemp*: Manufactories, Value in dollars.  
*Looms*: Number.  
*Carding-machines*: Number, Pounds carded.  
*Fulling-mills*: Number, Yards fullled, Value in dollars.  
*Spindles.*  
*Furnaces*: Number, Tons, Value in dollars.  
*Forges*: Number, Tons, Value in dollars.  
*Naileries*: Number, Tons, Value in dollars.  
*Tanneries*: Number, Hides and skins, Value in dollars.

*Flaxseed oil*: Mills, Gallons, Value in dollars.  
*Distilleries*: Number, Gallons, Value in dollars.  
*Paper-mills*: Number, Reams, Value in dollars.  
*Rope-walks*: Number, Tons, Value in dollars.  
*Gunpowder mills*: Number, Pounds, Value in dollars.  
*Salt*: Works, Bushels, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Hemp*: Tons prepared, Value in dollars.  
*Maple sugar*: Pounds, Value in dollars.  
*Saltpeter*: Pounds, Value in dollars.

## NORTH CAROLINA.

*Blended and unnamed cloths and stuffs*: Yards made, Value in dollars.  
*Spinning-wheels*: Number.  
*Looms*: Number.  
*Fulling-mills*: Number, Yards fullled, Value in dollars.  
*Labor-saving machinery*: Spinning frames, Spindles.  
*Fur hats*: Number, Value in dollars.  
*Iron works*: Bloomeries, Trip-hammers, Rolling and slitting mills, Naileries.  
*Iron manufactures not marked*: Value in dollars.  
*Gunsmiths*: Rifles, Value in dollars.  
*Blacksmiths*: Shops, Value in dollars.  
*Stills made*: Value in dollars.

*Candles*: Manufactories, Pounds, Value in dollars.  
*Tanneries*: Hides, Value in dollars.  
*Shoes, boots, and slippers*: Value in dollars.  
*Flaxseed oil*: Mills, Gallons, Value in dollars.  
*Distilleries*: Stills, Gallons, Value in dollars.  
*Essence of turpentine*: Stills, Gallons, Value in dollars.  
*Paper*: Mills, Reams, Value in dollars.  
*Snuff*: Mills, Value in dollars.  
*Rope-walks*: Number, Value in dollars.  
*Gunpowder*: Mills, Pounds, Value in dollars.  
*Salt*: Works, Bushels, Value in dollars.

## EASTERN DISTRICT OF TENNESSEE.

*Blended and unnamed cloths and stuffs*: Value in dollars.  
*Looms*: Number.  
*Fulling-mills*: Mills, Value in dollars.  
*Hats made*: Value in dollars.  
*Furnaces*: Number, Value in dollars.  
*Bloomeries*: Number, Value in dollars.  
*Forges*: Number, Value in dollars.  
*Naileries*: Number, Value in dollars.  
*Guns made*: Value in dollars.  
*Leather tanned*: Value in dollars.  
*Shoes, boots, and slippers*: Value in dollars.

*Saddlery*: Value in dollars.  
*Flaxseed oil*: Value in dollars.  
*Distilled liquors*: Value in dollars.  
*Paper*: Mills, Value in dollars.  
*Cordage*: Value in dollars.  
*Gunpowder*: Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Maple sugar*: Value in dollars.  
*Saltpeter*: Value in dollars.

## WESTERN DISTRICT OF TENNESSEE.

*Cotton cloth in families, etc.*: Yards made.  
*Cotton manufacturing establishments.*  
*Blended and unnamed cloths and stuffs*: Yards made.  
*Woolen cloths in families, etc.*: Yards made.  
*Total*: Value in dollars.  
*Cotton and wool spun in mills*: Pounds, Value in dollars.  
*Looms*: Number.  
*Fulling-mills*: Number, Yards fullled, Value in dollars.  
*Spindles.*  
*Furnaces*: Number, Tons, Value in dollars.  
*Forges*: Number, Tons, Value in dollars.

*Naileries*: Number, Pounds, Value in dollars.  
*Tanneries*: Number, Hides, Value in dollars.  
*Distilleries*: Number, Gallons, Value in dollars.  
*Glauber salts*: Pounds, Value in dollars.  
*Copperas*: Pounds, Value in dollars.  
*Rope-walks*: Number, Tons, Value in dollars.  
*Gunpowder mills*: Number, Pounds, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Saltpeter caves*: Number, Pounds, Value in dollars.  
*Red ochre*: Pounds, Value in dollars.

## SOUTH CAROLINA.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Mixed goods and cotton goods* : Yards made, Value in dollars.  
*Flaxen goods* : Yards made, Value in dollars.  
*Woolen goods in families, etc.* : Yards made, Value in dollars.  
*Flaxen and mixed goods* : Yards made, Value in dollars.  
*Spinning-wheels* : Number.  
*Looms* : Number.  
*Carding-machines* : Number, Value in dollars.  
*Labor-saving machines* : Spinning-jennies, Spindles.  
*Hatteries* : Number, Fur hats, Value in dollars.  
*Bloomeries*.  
*Naileries* : Number, Value in dollars.  
*Guns* : Smiths, Guns, Value in dollars.  
*Blacksmiths* : Number, Value in dollars.

*Steel furnaces* : Tons, Value in dollars.  
*Tanneries* : Number, Hides, Value in dollars.  
*Shoemakers* : Number, Pairs of shoes, boots, and slippers, Value in dollars.  
*Saddlery* : Value in dollars.  
*Flaxseed oil* : Mills, Gallons, Value in dollars.  
*Distilleries* : Stills, Gallons, Value in dollars.  
*Paper* : Mills.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Wheat- and grist-mills* : Wheat-mills, Grist-mills, Barrels of flour made, Value in dollars.  
*Saw-mills* : Number.

## GEORGIA.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Cotton manufacturing establishments* : Number, Yards made, Value in dollars.  
*Flaxen goods in families, etc.* : Yards made, Value in dollars.  
*Mixed goods and hempen, chiefly mixed* : Yards made, Value in dollars.  
*Blended and unnamed cloths and stuffs* : Yards made, Value in dollars.  
*Woolen goods in families, etc.* : Yards made, Value in dollars.  
*Bagging for cotton or hemp* : Yards made, Value in dollars.  
*Flaxen and mixed goods* : Yards made, Value in dollars.  
*Stockings* : Pairs made, Value in dollars.  
*Carding-machines*.  
*Spinning-wheels* : Number.  
*Looms* : Number.  
*Labor-saving machinery* : Drawing and roving machines, Mules, Billies, Jennies, Looms with fly-shuttles, Spinning frames, Spindles.

*Bloomeries* : Number, Tons, Value in dollars.  
*Forges* : Number, Value in dollars.  
*Naileries* : Number, Value in dollars.  
*Soap and candles* : Manufactories, Pounds of candles, Value in dollars, Pounds of soap, Value in dollars.  
*Tanneries* : Number, Hides, Calfskins, Value in dollars.  
*Deerskins* : Number, Value in dollars.  
*Distilleries* : Number, Gallons, Value in dollars.  
*Breweries* : Number, Barrels, Value in dollars.  
*Gunpowder* : Mills, Pounds, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Saw-mills* : Number, Feet, Value in dollars.

## TERRITORY OF ORLEANS.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Stockings* : Pairs, Value in dollars.  
*Spinning-wheels*.  
*Looms*.  
*Hats* : Hatteries, Fur hats, Value in dollars.  
*Gunsmiths*.  
*Blacksmiths* : Shops, Value in dollars.  
*Clock and watch makers*.  
*Gold and silver work and jewelry* : Shops.  
*Tin and copper* : Shops.  
*Soap and candles* : Manufactories, Pounds of soap, Pounds of candles, Value of soap, Value of candles.  
*Tanneries* : Number, Hides, Calfskins, Value in dollars.  
*Shoemakers* : Number, Pairs of shoes, boots, and slippers, Value in dollars.  
*Distilleries* : Number, Hogsheads, 50 gallons each from molasses, Value in dollars.  
*Cabinet makers*.  
*Carriages made*.

*Block and pump makers*.  
*Sugar* : Refineries, Pounds, Value in dollars.  
*American cigar makers*.  
*Tobacco* : Pounds, Value in dollars.  
*Potteries* : Number, Pieces.  
*Drug manufactories*.  
*Rope-walks* : Number, Tons, Value in dollars.  
*Gunpowder* : Mills, Pounds, Value in dollars.  
*Salt* : Works, Bushels, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Saw-mills* : Number, Feet, Value in dollars.  
*Sugar-planters' works* : Number, Hogsheads of sugar, Value in dollars.  
*Bricks* : Kilns, Number, Value in dollars.  
*Tiles* : Number, Value in dollars.  
*Indigo* : Works, Pounds, Value in dollars.  
*Molasses* : Hogsheads, Value in dollars.  
*Cotton, pressed* : Presses, Value in dollars.

## TERRITORY OF MISSISSIPPI.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Cotton manufacturing establishments*.  
*Flaxen goods in families, etc.* : Yards made, Value in dollars.  
*Woolen goods in families, etc.* : Yards made, Value in dollars.  
*Looms* : Number.

*Carding-machines*.  
*Spindles* : Number.  
*Tin* : Manufactories, Value in dollars.  
*Tanneries* : Number, value in dollars.  
*Distilleries*.

## TERRITORY OF LOUISIANA.

*Spinning-wheels* : Number.  
*Looms*.  
*Spinning-wheel makers*.  
*Hatteries*.  
*Gunsmiths*.  
*Blacksmiths*.  
*Gold and silver work and jewelry shops*.  
*Tin-plate workers*.  
*Copper and brass manufactories*.  
*Leaden shot manufactories*.  
*Soap and candle manufactories*.  
*Tanneries*.  
*Shoemakers*.  
*Saddlers*.  
*Distilleries*.

*Breweries*.  
*Boat-builders*.  
*Cabinet makers*.  
*Chair makers*.  
*Wagon makers*.  
*American cigar makers*.  
*Potteries*.  
*Manufactories of drugs*.  
*Salt works*.  
*Printing offices*.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Wheat-mills*.  
*Horse-mills*.  
*Saw-mills*.

## TERRITORY OF INDIANA.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Mixed goods and cotton* : Yards made, Value in dollars.  
*Cotton manufacturing establishments*.  
*Flaxen goods in families, etc.* : Yards made, Value in dollars.  
*Blended and unnamed cloths and stuffs* : Yards made, Value in dollars.  
*Woolen goods in families, etc.* : Yards made, Value in dollars.  
*Cotton and wool spun in mills* : Value in dollars.  
*Spinning-wheels* : Number.  
*Looms*.  
*Naileries* : Number, Pounds, Value in dollars.  
*Tanneries* : Number, Hides, Value in dollars.

*Distilleries* : Number, Gallons, Value in dollars.  
*Wine* : Gallons, Value in dollars.  
*Gunpowder* : Mills, Pounds, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Wheat-mills* : Number, Barrels, Value in dollars.  
*Maple sugar* : Pounds, Value in dollars.  
*Horse-mills* : Number, Bushels.  
*Grist-mills* : Number, Bushels, Value in dollars.  
*Saw-mills* : Number, Feet, Value in dollars.

## TERRITORY OF ILLINOIS.

*Blended and unnamed cloths and stuffs* : Yards made, Value in dollars.  
*Spinning-wheels*.  
*Looms*.  
*Blacksmiths*.  
*Tanneries* : Number, Hides, Value in dollars.  
*Shoemakers*.  
*Saddlers*.  
*Distilleries* : Number, Gallons, Value in dollars.

*Boats* : Bushels, Value in dollars.  
*Cabinet makers*.  
*Cooper shops*.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Wheat-mills* : Number, Barrels, Value in dollars.  
*Saw-mills* : Mills, Feet, Value in dollars.  
*Maple sugar* : Camps, Pounds, Value in dollars.

## TERRITORY OF MICHIGAN.

*Flaxen and hempen goods* : Yards made, Value in dollars.  
*Woolen goods in families, etc.*  
*Looms*.  
*Spinning-wheels*.  
*Hats* : Number, Hats, Value in dollars.  
*Soap and candles* : Manufactories, Pounds of candles, Pounds of soap, Value of candles, Value of soap.  
*Tanneries* : Number, Hides, Value in dollars.  
*Saddlery* : Number, Saddles and bridles, Value in dollars.

*Distilleries* : Number, Gallons, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Grist-mills*.  
*Horse-mills*.  
*Windmills*.  
*Merino sheep*.

## DISTRICT OF COLUMBIA.

*Cotton goods in families, etc.* : Yards made, Value in dollars.  
*Cotton manufacturing establishments* : Number, Yards made, Value in dollars.  
*Blended and unnamed cloths and stuffs* : Yards made, Value in dollars.  
*Spinning-wheels*.  
*Looms*.  
*Carding-machines* : Number, Pounds, Value in dollars.  
*Labor-saving machinery* : Drawing and roving machines, Looms with fly shuttles, Reels, Spinning frames, Spindles.  
*Hatteries* : Number, Fur hats, Value in dollars.  
*Tanneries*.  
*Distilleries*.

*Breweries* : Number, Barrels, Value in dollars.  
*Sugar refineries* : Number, Pounds, Value in dollars.  
*Paper-mills*.  
*Glass works* : Works, Square feet, Value in dollars.  
*Potteries* : Number, Value in dollars.  
*Rope-walks* : Number, Tons, Value in dollars.  
*Suspender manufactories* : Number, Dozen, Value in dollars.

CLASSED AS "ARTICLES OF A DOUBTFUL NATURE".

*Grist-mills* : Number, Bushels of meal, Barrels of flour, Value in dollars.